The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 653.---Vol. XVIII. LONDON, SATURDAY, FEBRUARY 26, 1848. [Price 6d.

Stannaries of Cornwall—In the Vice-Warden's Court.

HILL *v.* VIGERS.

IN THE MATTER OF THE ROYAL POLBEROU MINES, OTHERWISE THE ST. AGNES CONSOLIDATED MINES.

WHEREAS the VICE-WARDEN did, by an ORDER, or DECREE, made in the above-mentioned cause, and bearing date on the 26th day of August, 1846, Order and Decree that a SALE be made of the ORES and HALVANS, and (if necessary) the ENGINES, MACHINERY, MATERIALS, and EFFECTS upon and belonging to the ROYAL POLBEROU MINES, otherwise the ST. AGNES CONSOLIDATED MINES, in the parish of ST. AGNES, within the said Stannaries, under the direction of the Registrar of the Court, and that the proceeds of such sale should be applied by the said Registrar in the manner directed by the said Order or Decree.

Notice is hereby given, that, pursuant to the said Order and Decree, a PUBLIC AUCTION will be HOLDEN at the ROYAL POLBEROU MINES, otherwise the ST. AGNES CONSOLIDATED MINES aforesaid, on Tuesday, the 14th day of March next, and following days, at Eleven o'clock in the forenoon of each day, for SELLING, either together or in lots, the under-mentioned

MINING MACHINERY AND MATERIALS—viz.:

SIX STEAM-ENGINES—

1 80-inch cylinder PUMPING-ENGINE, 9 feet stroke, with three boilers, about 36 tons, the first piece of rod, and iron balance-bob.
1 60-inch cylinder PUMPING-ENGINE, 9 feet stroke, with three boilers, abou 33 tons, two balance-bobs, and the first piece of rod.
1 36-inch cylinder DOUBLE-ACTING STAMPING-ENGINE, 10½-feet stroke, and three boilers, about 35 tons, two fly-wheels, about 30 ft. in diameter, with wrought-iron arms and sweep-rod, for working 96-heads, wrought-iron lifters, 6 cast-iron and 2 oak axles, and 24 oak frames.
1 22-inch cylinder WHIM-ENGINE, with two boilers, about 12 tons.
1 18-inch cylinder WHIM-ENGINE, with two boilers, about 16 tons.
1 16-inch cylinder WHIM-ENGINE, with one boiler, about 8 tons.

The whole of the above Engines have Brass Air-Pumps and Buckets.

A SAW-MILL, with WATER-WHEEL, 28 feet in diameter, and 20 inches breast, cast-iron fly-wheels, and oak axles and frames.

Five capstans and shears, about 700 fms. of capstan and cat-head ropes, from 16½ inches and under, 1800 fathoms of whim-ropes and chairs, of various sizes, 230 fathoms of wire rope. 6 horse-whims, about 300 fathoms of PUMPS, of the following dimensions—viz.: 18, 14, 13, 12, 9, and 8 inches diameter, with plunger-poles, windbores, working barrels, H and top doorpieces, clack seatpieces, and brass buckets, plunger pole cases, stuffing-boxes and glands, several hundred fathoms of ladders, 33 tram-waggons, 118 fathoms of 15-inch new oak rods, several hundred fathoms of flat and connection-rods, of various sizes, 600 fathoms of launders, about 2300 fathoms of tramroad iron, machine, horse, and winze kibbles, water barrels, a large quantity of stands and pulleys, wheel and hand-barrows, ore hutches, buddles, frames, and trunks, miners' chests, about 4 tons of old brass, several bundles of steel, 25 tons of NEW IRON, stapples and glands, strapping-plates, of various lengths and sizes, boiler and kibble plates, stamps-heads and lifters, air-pipes, pulley-blocks, iron and wood axles, weighing machine, 6 beams and scales, steel-yards, brass and iron weights, new and old shovels, riddles, pick and shovel hilts, sheet lead, white lead, safety fuse, engine-shag, gunpowder, candles, brass clacks, seats, and rings, ditto bearings, ditto valves, ditto poles, of 3½ and 2½-inch diam. ditto air-pumps and buckets, 6 smiths' bellows, of the following dimensions—viz.: 1 42-inch, 1 40-inch, and 4 36-inch—5 anvils, 3 vices, smith's crane, punching engine, screwing stocks, taps and plates, mandril, boring machine, a large quantity of smiths' and miners' tools, 2 grinding-stones, carpenters' benches, several tons of old wrought and cast-iron, a large quantity of old timber, old ropes, dials and stand, and a great variety of other materials in general use in mines. Also, FOUR CART HORSES and HARNESS, 4 carts and wheels, chaffing machine, and the whole of the ACCOUNT-HOUSE FURNITURE.

For viewing the same, application may be made to Capt. Evans, of St. Agnes; or Mr. Morriss, at the mines; and for further particulars (if by letter, pre-paid) to Messrs. Grylls and Hill, solicitors, Helston; or to Messrs. Hodge and Hockin, solicitors, Truro.

Dated Registrar's Office, Truro, the 12th day of January, 1848.

TO IRONMASTERS, TIN-PLATE-MAKERS, IRON-FOUNDERS, BOILER-PLATE-MAKERS, &c.—A most desirable INVESTMENT IN TRADE TO BE SOLD, BY AUCTION, by Mr. GEORGE T. STROUD, on Tuesday, the 29th day of February, 1848, at the CASTLE INN, in the town of SWANSEA.

Sale to commence at Two o'clock in the afternoon precisely.

All that newly-erected TIN-PLATE WORKS, now in complete order for working—consisting of TWO NEW STEAM-ENGINES, ROLLING-MILLS, FURNACES, Storing-rooms, Offices, and Yards—forming most COMPACT WORKS for any of the above branches of manufacture—standing on about six acres of land in all, adjoining the River Dafen, with a railway from the works direct to the port of Llanelly, which is distant about two miles.

The premises are held under a lease, for 99 years, at the low ground-rent of £30 a-year, with power for the lessees to purchase the freehold, at a moderate price, at any time within 10 years from 1846.

For further particulars (or a view of the premises), apply to Mr. B. Jones, solicitor, Llanelly; or to Mr. George T. Stroud, auctioneer.

N.B.—The larger engine has a 40-inch condensing cylinder, 7 feet stroke—is about 80-horse power, and has three 20-feet boilers, 6 feet diameter each. The smaller engine is a 13-inch high-pressure, with a 38-feet blast cylinder, &c. There are attached to the large engine two sets of black plate rolls, shears, &c.; one pair of cold rolls, one pair of bar-iron rolls and shears, &c.

IRONSTONE AND COAL MINES, within DUCKMANTON—also, STEAM-ENGINES, BLOWING APPARATUS, &c. &c., at the ADELPHI IRON-WORKS, Duckmanton aforesaid, near Chesterfield, in the county of Derby.—TO BE SOLD, BY AUCTION, by Mr. NICHOLSON, under powers of sale, contained in a mortgage deed, at the house of Mrs. Evinson, the ANGEL INN, CHESTERFIELD, on Tuesday, the 29th day of February, 1848, at Three o'clock in the afternoon, for Four precisely, subject to such conditions as shall be then produced, the unexpired TERM of a LEASE, for 20 years, from the 25th of March, 1831, of and in certain IRONSTONE and COAL MINES, and divers MESSUAGES, CLOSES, LANDS, and PREMISES, containing 108 A. 3R. 19 P., or thereabouts, in the parish of Sutton-cum-Duckmanton, in the county of Derby. Also, the following necessary articles for carrying on two blast-furnaces and an extensive colliery—viz.:

AT THE IRON-WORKS.

TWO STEAM-ENGINES, of 50-horse power each, blowing apparatus, complete, filling gear for two furnaces, cast-iron receiver, three single and one double heating apparatus. ONE 45-horse PUMPING-ENGINE, with 200 yards of pump-trees, working barrels, iron-works and runners to two blast-furnaces, and working apparatus to the same.

Cranes, cupolas, fixtures in moulding shops, one new railroad, wrought-iron (1000 yards long), on wood and stone sleepers.

One cast-iron railroad (2000 yards long), two steam-engines, level and pumping engine, ropes, gearing, &c.

AT THE COLLIERY.

STEAM-ENGINE and BOILER, winding apparatus, pump apparatus, with pumps, pump trees, with all the usual and necessary appendages, and iron tubing in the pits.

To view the premises, apply to Wm. Brookes, at the iron-works; and Wm. Moore, at the colliery; and for further particulars, application may be made at the offices of Messrs. Lucas and Cutts, solicitors, Chesterfield.—Feb. 16, 1848.

DEAN FOREST, GLOUCESTERSHIRE.—IMPORTANT and VALUABLE COAL-FIELDS, in extent about SIX HUNDRED ACRES, for ABSOLUTE SALE.—Mr. WILLIAM GRAHAM is instructed by the proprietor to SELL, BY AUCTION, at the BELL HOTEL, GLOUCESTER, on Saturday, the 4th day of March, 1848, at Three o'clock in the afternoon, subject to conditions of sale, those extensive and

VALUABLE COAL-FIELDS,

Known as the BRITANNIA and the FAVOURITE COLLIERIES.

LOT I.

THE BRITANNIA:

Is galed to the Coleford High Delf Vein of Coal, and all veins above it.

LOT II.

THE FAVOURITE:

Is also galed to the Coleford High Delf Vein of Coal, and all veins between it and the Churchway High Delf Vein.—These collieries adjoin each other, and contain

ABOUT SIX HUNDRED ACRES OF COAL,

And will be sold, together or separately, as may be agreed on at the time of sale.

The Severn and Wye Railway intersects a portion of the Favourite Colliery, and joins the locomotive branches of the South Wales, and Monmouth and Hereford Railways (for which an Act is obtained), a short distance to the east of them. They are very well situated, at Brierly, equi-distant between Coleford and Mitcheldean—surrounded by some of the best collieries in the Forest, and are in such an advantageous position, that both may be thoroughly worked with the same establishment.

Particulars and conditions of sale may be had at the principal inns in the adjacent towns; the place of sale; of J. R. N. Norton, Esq., and Messrs. Powles, Tyler, and Powles, solicitors, Monmouth; C. G. H. St. Pattrick, Esq., solicitor, Worcester; the auctioneer, Blue Broom, Ragland and Newport; and for a view of a map of the Forest, and the plan of the collieries, apply to John Atkinson, Esq., Coleford, her Majesty's Gaveller for the Forest of Dean; or to the proprietor,

Mr. WILLIAM COURT,
Auctioneer and general valuer, Monmouth.

THE PATENT OFFICE AND DESIGNS REGISTRY, *No. 210, STRAND, LONDON.*

INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION of INVENTIONS and DESIGNS, with Reduced Scale of Fees.

Messrs. F. W. CAMPIN and CO. offer their services, and the benefit of many years' experience, in SECURING PATENTS and REGISTRATIONS OF DESIGNS, with due regard to VALIDITY, economy, and dispatch—assisted by scientific men of repute.

Also, in MECHANICAL and ENGINEERING DRAWINGS, whether connected with Patents, Railways, or otherwise, by a staff of first-rate draftsmen.

Application personally, or by letter, to F. W. Campin and Co., No. 210, Strand (corner of Essex-street).

TO THE COAL AND IRON TRADE.—TO BE SOLD, BY AUCTION, by Messrs. E. and C. ROBINS & CO., at the SWAN HOTEL, in WOLVERHAMPTON, on Wednesday, the 22d day of March, 1848, at Three o'clock in the afternoon, the MANOR, or LORDSHIP, of BRADLEY, and the celebrated BRADLEY IRON-WORKS, situate at BRADLEY, in the township of Bilston, and county of Stafford, consisting of COAL and IRON MINES, FURNACES, FOUNDRIES, POTTERIES, FORGE, ROLLING and SLITTING-MILL, HOUSE, for the residence of a principal, or manager, HOUSES, for agents, clerks, and workmen, and every thing requisite for an extensive iron manufacturing establishment.

The property is in the midst of that part of Staffordshire where the iron trade is concentrated and carried on to the great extent for which it has long been distinguished.—These well-known works were established by the late John Wilkinson, Esq., ironmaster. They are in effective and in full operation. The property is most eligibly situated as to roads and canals, by which it is intersected in various directions. The Birmingham, Wolverhampton, and Dudley Railway, which is now in course of construction, intersects a portion of the estate on the east side, and the Oxford, Worcester, and Wolverhampton Railway will pass within a few yards of the western boundary of the property.

Mr. John Dunning, of Bradley, will shew the property, from whom printed particulars, with lithographed plans, may be had; and also at the offices of Messrs. E. and C. Robins, the auctioneers, in Birmingham; John Finchett Maddock, Esq., of Chester; Messrs. Sharpe, Field, Jackson, and Newbold, 41, Bedford-row, London; and Messrs. Wagstaff, Marsh, and Barratt, solicitors, Warrington.

VALUABLE PUMPING AND WINDING ENGINES FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, at WHEAL VOR MINE, in the parish of BREAGE, CORNWALL—

1 80-inch DRAUGHT ENGINE, 10-feet stroke in cylinder, and 8 feet in shaft, main beam and caps, top nozzle, spring piston and rod—all new this year; with four boilers, of 12 tons each, in excellent repair.
1 80-inch DITTO, 10 feet stroke in cylinder, 7½ feet in shaft, cylinder, pistoa, bottom and cover, nearly new, with two boilers, of 12 tons each, and three boilers, of 10 tons each, all lately thoroughly repaired.
1 49-inch DITTO, 9 feet stroke in cylinder, and 7 feet in shaft, without boilers.
1 20-inch WINDING ENGINE, 5 feet stroke, with two boilers, of 4 and 6 tons, and vertical cage, all in complete repair—the boilers and some other parts nearly new.
1 18-inch DITTO, 4 ft. stroke, with one boiler, of 5 tons, and horizontal cage, complete.
Several TONS of straight and turned STEAM-PIPES.
12-head CAST-IRON STAMPS AXLES, with bearings, oak frames, &c., complete.
A powerful WEIGHING MACHINE, nearly new, comprising every requisite.
An immense number of PUMPS, matching-pieces and windbores, 12 to 17-inch bore, with working barrels, doorpieces, H-pieces, cases, with stuffing-boxes and glands to match, from 11 to 19 inches bore, and plunger-poles, from 12 to 19 diameter.
Faggotted rod and cap plates, 6, 7, and 8 inches wide, staples and glands, eyerunners, caps, saddles, troughs and gudgeons for balance and other bobs.

Application to be made to Capt. R. Blight, jun., on the mine.

Dated Nov. 29, 1847.

N.B.—The above are of easy transit to Hayle wharfs, and from thence on ship-board, if required.

STEAM-ENGINES ON SALE.

No. 1. A Second-hand double power CONDENSING MARINE ENGINE, with cast-iron framing and side beams; cylinder 31 inches diameter, 3 feet stroke; air-pump, lined with brass, no boiler, 47-horse power, with 7 lbs. pressure on the square inch, and very suitable for pumping and winding in a colliery, lead mine, or to drive any kind of mill-work.

2. A double power CONDENSING MARINE ENGINE, quite new, but unfinished, with cast-iron framing and side beams; cylinder 43 inches diameter, 3½ feet stroke, 91-horse power, with 7 lbs. pressure on the square inch; no boiler, and suitable for the same purposes as No. 1.

3. A double power CONDENSING LAND BEAM WINDING ENGINE, cylinder 22 inches diameter, 4½ feet stroke, hand gear, with button valves, parallel motion, fly-wheel, waggon boiler, with all its fittings, door, grate, dead plate, &c.; two large cast-iron bell cranks and pedestals, with strong wrought-iron connecting-rods, for pumping water from two lifts of pumps, 100 yards deep; two rope wheels, suited for flat chains, apparatus to throw in and out of gear, pit-head pulleys, &c.; 23-horse power, with 7 lbs. pressure on the square inch, and suitable for the same purposes as No. 1.

4. A new direct action NON-CONDENSING ENGINE, double power, suitable for a a corn-mill, or winding in a coal or lead mine, with improved spring packing for piston; ditto ditto, for nozzle valves; cylinder 15 inches diameter, 3½ feet stroke, 28-horse power, with 30 lbs. pressure on the square inch—no boiler.

5. A double power NON-CONDENSING LAND BEAM ENGINE, cylinder 20½ inches diameter, 4 feet stroke, slide valve, parallel motion, no boiler, and quite new; 52-horse power, with 30 lbs. pressure on the square inch, and suitable for the same purposes as No. 1.

6. A double power NON-CONDENSING BEAM WINDING ENGINE, cylinder 15½ inches diameter, 3½ feet stroke, with a cast-iron portable frame, slide valve, hand gear, parallel motion, flat-rope wheel, spur and pinion wheels for the same; 29-horse power, with 30 lbs. pressure on the square inch, no boiler, and suitable for the same purposes as No. 1.

7. A second-hand PUMPING ENGINE, with cylinder 48 inches diameter, 7 feet stroke in the house, and the same in the pit, with air-pump condenser, hand gear, cistern, &c., pumping three lifts of pumps 100 yards, working barrels, 14 inches diameter; no boiler, 113-horse power, with 7 lbs. pressure on the square inch.

8. A new direct action NON-CONDENSING DOUBLE POWER ENGINE, 7-horse power, with a pressure of 30 lbs. on the square inch. This engine takes very little room.

One pair of MARINE BOILERS, newly repaired, suitable for a pair of 45 to 50-horse power engines.

New BOILERS, of any shape, can be made at a short notice, to suit any of the above engines.—For further information, apply to EYTON & CO.,
Mostyn Foundry, near Holywell, Flintshire.

BEAM TIN MINE, in the parishes of ST. AUSTELL and ROCHE.—In consequence of the inability of some large shareholders to advance the requisite capital, this VALUABLE PROPERTY is OFFERED FOR SALE, in its entire state, BY TENDER.

For its extent, BEAM MINE has been one of the most PROFITABLE in CORNWALL. Its tin is of the richest quality, and is known to be in great abundance below the present levels—the produce of 1847, from the upper levels alone, having been nearly £3000.—The machinery being most efficient, and all the shafts and levels newly timbered, a small comparative outlay will suffice to open the rich tin ground; the investment is, therefore, most desirable; and, should the purchaser wish it, several of the present adventurers will readily unite with him in working the mine effectually.

Tenders for the entire mine and machinery (pre-paid) will be received by Messrs. Coode and Ghilson, until the 13th of March next.

For viewing the mine, apply to the agents thereon; and for particulars, to Mr. Robert Knight, Luxulyan; or to Mr. R. Greenwood, purser.

N.B.—The highest tender will not be necessarily accepted.

Truro, Feb. 23, 1848.

RENFREWSHIRE, SCOTLAND.—Valuable MINERALS on the ESTATE of CASTLESEMPLE TO BE LET.—This estate, which is situated in the parishes of LOCHWINNOCH and KILBARCHAN, and county of RENFREW, extends over a surface of upwards of 5000 acres, and the MINERALS consist of

COAL, LIMESTONE, IRONSTONE, AND COPPER ORE.

COAL.—The coal, so far as has hitherto been proved, is found to be of good quality. The field is supposed to stretch along the line of the Ayrshire Railway, and to train round in a semicircular form, by the village of Lochwinnoch, near the parish church, at the western extremity of the lake. From the vicinity of so many extensive iron-works and manufactories, as well as from the local wants of the district, and the immediate vicinity of the populous village of Lochwinnoch, coal is in great request.

LIMESTONE.—The carboniferous limestone has been found on various points of the property, and is supposed to be of good quality, and easily workable. As usual, it is found under the coal beds. It is in good demand in the district.

IRONSTONE.—The ironstones are both of the clay-band and black-band species, but sufficient trials have not been made to ascertain their value. It is probable, however, from the strata being in the immediate neighbourhood of the well-known Ayrshire Black-band Ironstone, and lying in the same direction, that they may turn out, on farther trials, to be valuable.

COPPER ORES.—These are supposed to be of excellent quality. Some works have already been commenced in the neighbourhood; and it is understood that the veins of copper which have been found in the adjoining property of Kaim, are continued into the Castlesemple Estate, where the lands of High Barnaigh (part of the Castlesemple Estate) adjoin to Kaim. The greater part of the ore which has been hitherto found, is understood to show from 50 to 60 per cent. of copper.

The Castlesemple Estates are situated about 15 miles west from Glasgow, and 8 from Paisley, and surround the town of Lochwinnoch, where there is a station of the Ayrshire Railway. The proprietor is ready to entertain offers for a lease of the whole, or any of the above, minerals.

Further particulars will be learned on application to the proprietor, Lieut.-Colonel James Harvey, of Castlesemple, No. 10, Picardy-place, Edinburgh; Mr. David Ballingall, factor, Castlesemple; or Messrs. Shand and Farquhar, Writers to the Signet, No. 24, Queen-street, Edinburgh.

OFFICE FOR PATENTS, 7, STAPLE INN, HOLBORN

J. MURDOCH (successor and late assistant to Mr. Hebert)
informs INVENTORS and PATENTEES, that, at his OFFICE, they can obtain

REFERENCE TO A CLASSIFIED LIST OF PATENTS,

(THE ONLY ONE EXTANT), which shows at one view all the Patents ever granted for particular object, whereby they may save much trouble and expense, and procure information not otherwise obtainable. BRITISH and FOREIGN PATENTS OBTAINED, and USEFUL and ORNAMENTAL DESIGNS REGISTERED.

SPECIFICATIONS carefully prepared, and REPORTS of ENROLLED SPECIFICATIONS furnished on moderate terms.

FINISHED and WORKING DRAWINGS executed with accuracy and dispatch.

TO RAILWAY COMPANIES.—Mr. BROUGH will OFFER FOR SALE, BY AUCTION, at the FOOT of TRAFALGAR-STREET, near the North Shields Railway Station, on Wednesday, the 1st of March, at Twelve o'clock at noon precisely, FIFTY LOW-SIDED GOODS WAGGONS (for the narrow gauge), all of first-rate manufacture—a few of which may be inspected at the above place three days previous to the sale.—Blackett-street, Feb. 17, 1848.

TO IRONMASTERS AND OTHERS.—WANTED, by a person of undoubted character and qualifications, a SITUATION as MANAGER of a FORGE and MILL. The advertiser writes a good hand, and is capable of keeping any accounts relative to the above departments; and, being a good practical mechanic and draughtsman, would have no objection to superintend the forge engines.—A satisfactory reference will be given, on application (by letter, pre-paid) to "X. Y. Z.," care of the Editor of the *Mining Journal*, 26, Fleet-street, London.

TO ENGINEERS.—WANTED, ON HIRE, a PUMPING-ENGINE, of 40-horse power, to be erected on a MINE, at the cost of the contractor, and worked at an annual rental, with the option to the adventurers to purchase the engine at the expiration of one or two years.—Any party willing to make a contract of the above nature, may address to Mr. Robert Serjeant, Callington, Cornwall, stating particulars of terms, &c.

FOR SALE, BY PRIVATE CONTRACT—A single-acting PUMPING-ENGINE—cylinder 30-inch diameter, 9-feet stroke, equal beam, with 7-ton boiler, cisterns, spring beam, and first set of rod-shafts attached, being the engine of Wheal St. Cleer.—For particulars, apply to Capt. Osborne, Liskeard; Mr. West, engineer, St. Blazey; or Mr. Rendle, the purser, 13, Octagon, Plymouth.

TO ENGINEERS AND IRONFOUNDERS.—PERLBACH'S PATENT PROCESS OF UNITING METALS AND ALLOYS,

Described in the *Mining Journal*, No. 649, will be found very useful for STRENGTHENING IRON CASTINGS, by inserting bars, or pieces, of wrought-iron; and for UNITING CAST-IRON with COPPER, STEEL, GUN METAL, BRASS, and OTHER ALLOYS.—For LICENSES and particulars, apply to Mr. C. A. PRELLER,
31, Abchurch-lane, London.

TO MINE AND COLLIERY COMPANIES AND PROPRIETORS.—TWO SURVEYORS, thoroughly competent, are desirous of undertaking the SURVEYS of MINES and COLLIERIES, on terms advantageous to those who may have occasion for their services.—SALES or PURCHASES of SHARES in the above attended to with promptness and punctuality, on the usual commission.
3, Cannon-row, Westminster. DE WINTON & BONE, Surveyors.

MR. JAMES STRIDE, PARLIAMENTARY AGENT, begs to announce, that he has COMMENCED BUSINESS as MINING, SHARE, ESTATE, and GENERAL AGENT. He has ON SALE, SHARES in the best DIVIDEND-PAYING and other MINES. The earliest and most authentic information, and the full benefit of the market value, afforded to buyers and sellers of mining and other property.
MINES INSPECTED AND REPORTED ON.
London, 35, Charing-cross.

MR. R. TREDINNICK, THREE KING'S COURT, *LOMBARD-STREET, LONDON,*

Continues to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously, upon personal application.—MONEY ADVANCED upon the above securities.

JAMES LANE, MINING SHARE DEALER, 75, *OLD BROAD-STREET, LONDON.*

WM. KING & CO., MINING AND GENERAL AGENTS, beg to announce, that they ACCEPT AGENCIES for the SALE of MINERAL SUBSTANCES, and their MANUFACTURED PRODUCTS; Apparatus, Machinery, &c., used in mines, manufactories, agriculture, and in the arts; and that they are now prepared to execute orders for Coke, Tyne Fire-clay, Fire-bricks, and the celebrated Wideopen Firestone.—Newcastle-on-Tyne, 30, Collingwood-street.

WILSON & FRASER, 2, WELLINGTON-BUILDINGS, LIVERPOOL, and 13, EXCHANGE-PLACE, GLASGOW, have always ON SALE PIG-IRON, BAR-IRON, RAILWAY CHAIRS, and RAILWAY BARS.

MONEY.—MESSRS. KILLICK & CO. (late WINSTANLEY, KILLICK, & Co.), SHAREBROKERS, inform their friends and the public, they make IMMEDIATE ADVANCES, to any amount, on the deposit of English and Foreign Railway Shares, Scrip, and Debentures, upon exceedingly advantageous terms: they also BUY and SELL every description of STOCK and MINING SHARES, at much less commission than usually charged.
6, Bank Chambers, opposite the Bank of England.

ASTURIAN MINING COMPANY.—Notice is hereby given, that the NUMBERS of all SHARES in this company, upon which the CALLS, due on the 4th day of December and the 4th day of January last, shall NOT have BEEN PAID, with interest, on or before the 6th day of March next, shall be advertised as FORFEITED for non-payment: and, if not paid upon within 15 days thereafter, shall be confiscated for the benefit of the company. By order of the board,
K. MACKENZIE, Secretary.
Offices of the Company, 9, Austinfriars, London, Feb. 25, 1848.

BANWEN IRON COMPANY.—Notice is hereby given, that the next ORDINARY GENERAL MEETING of the shareholders of this company will be HELD at their offices, 23, Threadneedle-street, London, on Monday, the 28th inst., at Twelve o'clock precisely. By order,
23, Threadneedle-street, Feb. 16, 1848. S. P. HARRIS, Secretary.

NISTER DALE IRON COMPANY.—Notice is hereby given, that the ANNUAL GENERAL MEETING of the proprietors of shares in this company will be HELD at the office of the company, 10, Old Jewry Chambers, in the city of London, on Thursday, the 9th day of March next, at One o'clock precisely.
February 19, 1843. F. W. EMERSON, Clerk.

NISTER DALE IRON COMPANY.—Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the proprietors of shares in this company will be HELD at the office of the company, 10, Old Jewry Chambers, in the city of London, on Thursday, the 9th day of March next, at Two o'clock in the afternoon precisely, for the purpose of sanctioning and adopting the resolutions passed at a meeting of the shareholders, held on the 12th day of January last; and also for the purpose of considering the most advisable mode for carrying into effect the objects of the said resolutions, and for raising such further sum (if any) as may be required for discharging the remaining liabilities of the company, and to determine whether any and what greater rate of interest than the ordinary rate shall be paid for such advances; and also to consider and adopt the best means of protecting and indemnifying those shareholders who have advanced, or become security for, sums of money, for the purposes of the said resolutions, beyond their fair rateable proportions. F. W. EMERSON, Clerk.

PATENT GALVANISED IRON COMPANY—TRADING under the firm of "MALINS & RAWLINSONS."

Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the shareholders of this company will be HELD at the London Tavern, Bishopsgate-street, on Tuesday, the 7th day of March next, at One o'clock precisely, and is specially called for the purpose of approving or disapproving of the Bills now before the House of Commons, for obtaining Acts of Parliament for the benefit of the company.
By order, S. VINCENT, Secretary.
3, Mansion-house-place, London, Feb. 24, 1848.

SWANSEA DOCK COMPANY.—The directors of the SWANSEA DOCK COMPANY, appointed by the Act of Parliament, and confirmed as such by the special general meeting of the shareholders, held in London on the 20th of October, 1847, hereby give Notice, that the CALL of THREE POUNDS on each share of the stock of this company, advertised in the Swansea papers, is not authorised by them, and is ILLEGAL, NULL, and VOID; and shareholders paying the same, will do so at their own risk and loss.

The directors of this company further give Notice, that they continue in office as such under the Special Act of Parliament constituting the Company, and the Company's Clauses Consolidation Act; and, further, that had the whole of the shares of the company been taken up, as contemplated, a call to the extent of only £1 per share would have been required to meet the present necessary purposes of the company.
By order, A. C. HOWDEN, Secretary.
Office of the Swansea Dock Company, 3, Lothbury, London, Feb. 15, 1848.

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY,
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From Sir PHILIP CRAMPTON, Bart., Surgeon-General to the Army in Ireland:—"DEAR SIR,—There can be no doubt that magnesia may be administered more safely in the form of a concentrated solution than in substance; for this, and many other reasons, I am of opinion that the fluid magnesia is a *very valuable* addition to our Materia Medica.—PHILIP CRAMPTON."—Sir J. Clarke, Sir A. Cooper, Dr. Bright, and Messrs. Guthrie, and Herbert Mayo, of London, strongly recommend Murray's Fluid Magnesia, as being infinitely more safe and convenient than the solid, and free from the danger attending the constant use of *soda or potass*. 32

Letter from J. Murray, Esq., Lecturer on Chemistry, F.S.A., F.L.S.:—"DEAR SIR JAMES,—Many years have elapsed since you first showed me, in your laboratories, your super-carbonate, or soluble magnesia, and demonstrated experimentally the remarkable quantity of pure magnesia held in transparent solution. It was then new to me, as it was to the chemical world, and I speak advisedly, as a practical chemist. I believe its medical value cannot be too highly estimated; and I am satisfied that the public is under an infinite debt of gratitude to you for those invaluable researches, which have been the means of its introduction. Not to mention its more obvious healing virtues, I believe it to be almost, if not altogether, a specific for lithic acid concretions, when used in the pure condensed solution invented by you.

'Believe me to be your's, faithfully, JOHN MURRAY, F.S.A.

"To Sir James Murray, Dublin. Portland-place, Hull, Aug. 30, 1839."

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"To Sir J. Murray. Tuthill's Hotel, Dawson-street, Dublin, Feb. 19, 1839.

From Dr. KENNEDY, Master of the Lying-in Hospital, Dublin:—

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PART THE FIRST treats of the anatomy and physiology of the reproductive organs, and is illustrated by six coloured engravings.—PART THE SECOND treats of the consequences resulting from excessive indulgence, and their lamentable effects on the system, producing mental and bodily weakness, nervous excitement, and generative incapacity; it is illustrated by three explanatory engravings.—PART THE THIRD treats of the diseases resulting from infection, either in the primary or secondary form, and contains explicit directions for their treatment. The consequences of neglect, and of the abuse, of mercury are also clearly pointed out. This section is illustrated by 17 coloured engravings.—PART THE FOURTH treats of Perry's Preventative Lotion, by the use of which the dangers of infection are obviated. Its action is simple but sure; it combines with the virus chemically, and destroys its power on the system.—PART THE FIFTH is devoted to the consideration of marriage and its duties. The causes of unproductive unions are also considered, and the whole subject critically and philosophically inquired into.

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SANITARY REFORM—SEWAGE.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—I am much pleased to notice the able manner in which the absolute necessity of sanitary measures is constantly being advocated in the leading journals, and to which, in a great measure, may be attributed the improvements which have taken place, and the present movement which is being made by the Government and Sanitary and Sewer Commissioners. Such being the case, I have no doubt you will excuse my troubling you with a few remarks on some observations in the *Times* newspaper of the 10th inst., under the head of "The Sanitary Question in Westminster."

It is there stated that—"The startling fact is adduced, that, in the drainage to the river in the low districts of Westminster, &c., the refuse cannot immediately be got rid of, but remains stagnating for a number of hours, twice in every day, all escape being cut off by the tide, and exhaling the most malignant and poisonous effluvia, to the destruction of the inhabitants. Again, in the flat elevated districts, where the channels are free, the 'fall,' it appears, is insufficient to preclude the formation of deposits, from which noxious gases must be evolved, necessitating incessant labour, and entailing endless expenditure of the public money."

The knowledge of this fact cannot, I think, be considered as anything new, as it must have been known to the Commissioners of Sewers from the time the sewers were constructed; and any one taking the least trouble to investigate the matter, would immediately discover that such was the case. Assuming, therefore, that this fact must have been well known and deplored by the commissioners, and that they have been repeatedly baffled as to the proper methods of curing the evil, it is gratifying to find that the subject has at length been referred to high scientific authority, with the view of devising measures of practical efficacy for the attainment of the object desired.

Having, for some time, felt considerable interest in the question of an efficient drainage for the metropolis, I have carefully considered the measures proposed, and feel bound to state that they appear to me to be very insufficient for the purpose required; it is not stated how many central reservoirs, or how many steam-engines would be required; but, I would ask, who would like to have either in his immediate neighbourhood? The inhabitants would, I think, consider the proposed scheme as anything but a remedy. Again, it is stated, that the steam-engine distributing pipes would carry the liquid refuse to the adjacent country, to serve the purpose of manure; and, from the same point, other pipes would lead to the river, into whose bed the refuse raised by the engines would be discharged, whenever, as would be the case in wet weather, a superfluous quantity might remain to be disposed of; and it is further explained, that the surplus discharge into the Thames, already alluded to, would consist only of the upland and natural flood water, for which sufficient provision would be made to secure the district from inundation, and that the entire cost of the works of drainage of the division in question, exclusive of the engine-power, is estimated at the sum of 21,000*l*. No mention is made of what is to become of the solid deposit, or of any means provided for its removal; and I entertain strong doubts of the *adjacent* country requiring the whole of the liquid refuse, with the exception of the upland and natural flood water, unless many miles of pipage be laid, the cost of which, in proportion to the district drained, would be enormous, as it is evident that the same fields could not constantly, day after day, be saturated with it; and, although no engineer, I apprehend that, if the expense of pipage and engines were included, and fairly estimated, the sum of 21,000*l*. would form but a very small item of the amount that would be required. For these reasons, although I think a reasonable sacrifice, as regards expense, should be submitted to, to obtain the object required—namely, a perfect system of drainage—I must again say, that I consider the measures proposed to be wholly inadequate to carry it into effect.

I have lately had an opportunity of seeing two reports of Mr. Wicksteed's to the London Sewage Company. In the first, dated December 22, 1845, after giving some statistical details, and stating his reasons for objecting to the schemes for distributing sewer water by pipes and machinery—and which reasons are, in my opinion, most conclusive—he proposes to construct, on the north side of the Thames, a circular sewer of 8 ft. in diameter, to extend from the Ranelagh sewer, at the end of Grosvenor-road, to the end of Fleet-street, and from thence a sewer, of 12 ft. in diameter, to the company's proposed works, to be situated in an angle formed by the western banks of Barking Creek, and the northern banks of the Thames; and on the south side, a circular sewer of 8 ft. in diameter, commencing at or near to the Earl Sluice, and terminating in the Greenwich Marshes, at the proposed works of the company, on the banks of the Thames, between the Tide Mill and Sluice House; both sewers are to intercept the present sewers, and to be considerably below low water—the communication to be effected by means of shafts from the top of the proposed sewers to the underside of the existing sewers; so that whatever flows through the *present sewers, must* flow into the *intercepting sewers*, unless in case of long-continued rains or storms—when, if much more than double the usual quantity of water should pass down, then, as soon as the intercepting sewer is fully charged, the surplus water would run off, through the old channels, into the Thames, &c.

The author, in his report, dated 22d December, 1845, alludes to what is described in the *Times* of the 12th February, 1848, as a startling fact; and fully explains that, "at present, it is necessary to make the main sewers of great capacity, because their contents can be delivered into the river at or near low water only—a period at which the delivery on the shores is most offensive to the public;" and that, "at all other states of the tide, the sewage is pent up and held back—these large sewers becoming reservoirs to contain the quantity collected during those periods in which the height of the tide prevents its discharge into the river;" that "another evil now arises, not more offensive than injurious—the foul air not being carried with the current into the river, necessarily and naturally rises, through any opening it can find, and a stream of noxious effluvia is evolved;" and that a further disadvantage resulting from this penning up of the sewage is, that the current through the sewers being checked, the water becomes quiescent, and the heavy particles previously held in mechanical suspension, are deposited, and accumulate." The report further explains, that a great improvement in the construction, and a saving in the cost of future sewers, will also be promoted by this plan—because, as the outlet will be considerably lower than at present, the sewers may be laid at a greater inclination, and a smaller size be equally effective; and, further, those parts of the metropolis which cannot be properly drained on account of their low level, may be so when the new sewers are made; also, that the intercepting sewers will deliver between two and three times the quantity at present supplied, thereby providing amply for the future; and that, as the plan submitted would be carried into effect by means of tunnels, there would, in their progress, be no interference with the present sewers, and no disturbance of the streets and pavements, except at those points where the shafts would communicate with the proposed new sewers.

At the company's works it was proposed to make arrangements for separating the stones, brickbats, and other heavy materials, the carcases and other large floating bodies that may be carried down from the ordinary sewage water, which latter would be pumped up continually, as it flowed out of the mouths of the sewers, *so as always to preserve the necessary fall of water in the sewers*; the heavy materials to be taken out at once, the floating bodies to be raised into a separate covered reservoir, and subjected to the action of lime, which would promote the decomposition, and some portions exposed to a mechanical process to reduce them minutely; the sewage water to be mixed with a certain small portion of lime, which would prevent any effluvia from extending beyond the limits of the works, and then pumped up into an elevated reservoir; and the refuse liquid to be discharged into the Thames at all states of the tides. The manure to be disposed of either in a liquid, partially dried, or highly dried form—so that it could be transmitted in either state at the option of the purchaser, or according to the distance to which it had to be sent. The report states, that the cost of the proposed sewers, reservoirs, buildings, wharfs, machinery, and land, on both sides of the river, including all engineering charges and expenses from the commencement to the termination of the work, would not exceed 1,300,000*l*.; or, if 200,000*l*. were included for law and Parliamentary expenses, and for real or imaginary cases of compensation, the total cost would be 1,500,000*l*.—this amount, however, it appears by the second report, may be much reduced.

The second report, dated 8th October, 1846, alludes to the panic of the previous year having impeded the operations of the provisional committee, and recommends the committee (I presume chiefly on account of monetary matters), in the first instance, to confine themselves to the north side, extending westward to the Fleet sewer only, but to make the sewer capable of conveying the whole sewage from the west end should it be required hereafter; and again states, "that the scheme for applying the sewage water as a manure in the liquid state, conveying it" by means of "a system of pumping engines and pipes analogous to that of the great water companies," was *utterly impracticable* in a *commercial* point of view, although not *physically* impossible; and although the Legislature has granted powers to a company to carry this plan partially into effect, I am still of the same opinion, and feel very confident that, should it be attempted to be carried out, the result will be disappointment both to the public and shareholders; and his predictions have hitherto been completely verified—for the Liquid Manure Company, although they obtained their Act early in 1846, have to this day not been able to put their scheme into operation.

I was much interested with the reports, and would gladly have quoted much more largely from them, but for fear of trespassing too much on your columns; indeed, it is hardly doing justice to the plan to present you with such a very curtailed statement of its advantages. There can be no doubt, from the reports of the chemists, that the manure would be highly valuable. In the highly dried state, after being treated with lime, according to Mr. Nash, the proportion of fertilising matter, as compared with guano, is as 70 per cent. of the former to 60 per cent. of the latter; and it is calculated that, if sold at the works at 40s. per ton, sufficiently dried so as to make its consistency equal to the ordinary manure transmitted in carts, barges, or railway trucks, at 4s. per ton, and in the liquid form, at *one penny* per ton, it would yield a profit of 10 per cent. to the shareholders. I, however, conceive profits to be of minor importance, and that the advantages to the public health are by far the most essential considerations.

I do not know whether the company now exists, but as I do not hear of any public movements being made by them, I presume that the depressed state of the commercial world, since the second report was printed, has prevented their proceeding; but here is a scheme which takes in the whole of the metropolis, on both sides of the river, and to me appears to be most simple in detail, yet full and comprehensive, and to embrace every thing that can, as far as we can see at present, be wished for as regards sewers. And in the second report a most important communication is made—namely, "that contractors of high standing and great experience in constructing sewers in the metropolis, are quite willing to undertake the works at the prices I have estimated for, and to give ample security for the due performance of the work."

The expenses would, therefore, be *guaranteed* not to amount to more than the estimate; and how much better it is to know at once what will have to be paid for a full and comprehensive measure, than to be making doubtful trials in small districts, at an expense not known (as the cost of the material portions of the work are not included in the estimate given), and which, if extended to the whole of the metropolis at the same ratio, might be difficult to estimate. The report states, that any effluvia would be prevented from extending beyond the limits of the works; but should it be otherwise, surely it will be better to have the exhalations, or noxious effluvia, miles from the metropolis, than in several places (as may be inferred from the observations referred to) in the midst of densely populated neighbourheods. Surely such a project should, *at this time especially*, be inquired into. I would strongly urge, that the Government make inquiry into the merits of this scheme, and forthwith confer with the author on the subject; and if they then entertained any doubts regarding it, I would suggest that they appoint one or two eminent engineers, totally unconnected with sewage schemes, to consult with him and report upon it. If it is then found to be impracticable, the Government will have done their duty, and the public will be satisfied. But if, as it strikes me, the engineers report it to be a good scheme, then let the Government empower the projector to carry it into effect, as it is but fair that a gentleman who has devoted time and talent (and most probably money) in maturing so salutary a scheme, should have the credit of completing it. And I need scarcely say, that the sooner this most important measure is completed the better for all classes. If, however, owing to the financial state of the country, the Government do not feel themselves in a position to carry out this measure at present, then I conceive that they should give every encouragement to any company attempting to do so—not only on account of the great saving in the expense of the construction of all future sewers (as explained above), but also, and chiefly, for the very important sanitary advantages which would be derived from the complete drainage of the metropolis, which the proposed intercepting sewers would most certainly effect.

In conclusion, I have only to add, that I do not know Mr. Wicksteed; I have never seen him, nor had any communication with that gentleman; and my reason for sending this, is an anxious wish that a perfect system of drainage—an object so much desired by and beneficial to all—should be attained.—X. Z.: *London, Feb. 23.*

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY	Royal Botanic—Inner Circle, Regent's-park	3½ P.M.
MONDAY	Geographical—3, Waterloo-place	8½ P.M.
	Medical—Bolt-court, Fleet-street	8 P.M.
TUESDAY	Civil Engineers—25, Great George-street	8 P.M.
WEDNESDAY	Society of Arts—Adelphi	8 P.M.
	Medical and Chirurgical—53, Berners-street	4 P.M.
THURSDAY	Royal—Somerset-house	8½ P.M.
	Antiquaries—Somerset-house	8 P.M.
FRIDAY	Royal Institution—Albemarle-street	8½ P.M.
	Botanical—20, Bedford-street, Covent-garden	8 P.M.
SATURDAY	Asiatic—14, Grafton-street	2 P.M.

INSTITUTION OF CIVIL ENGINEERS.

FEB. 22.—JOSHUA FIELD, Esq. (President), in the chair.

The paper read was by Mr. A. Mitchell, of Belfast, Assoc. Inst. C. E., "On Sub-marine Foundations; particularly the Screw-pile and Moorings." Considering that the entire subject of the various sorts of piling, of solid stone foundations, of cofferdams, of masses of concrete, and the numerous modes adopted by ingenious men for overcoming local difficulties, would occupy too much time, and scarcely possess novelty, the author restricted himself almost entirely to the description of the works executed by him with the screw-pile, as that had been chiefly employed for supporting structures on loose sand or mud banks, wholly or partially covered by the sea, where it had been previously considered very hazardous, if not impracticable, to erect any permanent edifice; and in his narrative, he scrupulously avoided all comparison with other modes of proceeding, even when they had the same object. The origin of the screw-pile was the screw-mooring, which was designed for the purpose of obtaining, for an especial purpose, a greater holding power than was possessed by either the ordinary pile or any of the usual mooring anchors or blocks, of however large dimensions. It was proved by experiment, that if a screw, with a broad spiral flange, were fixed upon a spindle, and forcibly propelled by rotary motion to a certain depth into the ground, an enormous force would be required to extract it by direct tension; and that the power employed must be sufficient to drag up a mass of earth of the form of the frustrum of a cone reversed—the base being at the surface of the ground, and the section of the apex being equal to the diameter of the screw. The extent of the resisting mass must, of course, depend upon the natural tenacity of the soil. Even in this reasoning, it must be evident that a vertical force was calculated upon; but as, practically, that seldom if ever occurred, the angle of tension and the curve of the buoy-cable again gave the moorings greater power. This was found to be correct in practice, and the application of the moorings became very extensive. An arrangement was made with the port of Newcastle-on-Tyne, by which, for the sum of 2500*l*., the right of fixing these moorings in the Tyne was given; and Mr. Brookes, the engineer, showed that last year, whilst in the neighbouring port, damage was done to the shipping to the extent of nearly 30,000*l*., no injury was sustained in the Tyne, entirely owing to the sound holding of Mitchell's screw-pile moorings. It naturally occurred to Mr. Mitchell, that the same means of resistance to downward pressure might be used; and he proposed to apply it for the foundations of lighthouses, beacons, and other structures, which, for maritime purposes, it might be desirable to place upon sand and mud banks, where hitherto it had been considered impracticable to place any permanent edifice. In the year 1838, a plan for a structure of this nature for a lighthouse, on the Maplin Sand, at the mouth of the Thames, was laid before the corporation of the Trinity House, supported by the opinion of James Walker, Esq., their engineer. The nine iron piles, 5 in. diameter, with screws 4 ft. diameter, were accordingly driven 22 feet deep into the mud, and, with proper precaution, they were allowed to stand for two years before any edifice was placed upon them. The lighthouse was subsequently constructed, and, as was testified by Mr. Walker, had stood perfectly until the present time. Pending this probation, it was determined to erect a lighthouse to point out the entrance to the harbour of Fleetwood-on-Wyre, and under the advice of Captain Denham, R.N., the screw-piles were adopted. The spot fixed on was the point of a bank of loose sand, about two miles from the shore; seven iron piles, with screws of 3 ft. diameter, were forced about 16 ft. into the bank, and upon them timber supports 48 ft. in vertical height were fixed to carry the house and lanthorn. This structure was completed in six months, and was perfectly successful, never having required any repairs to the present time. A similar lighthouse was erected near Belfast; and since then several others, with a great number of beacons, have been fixed in situations heretofore deemed impracticable.

A project was started by the Earl of Courtown, in the year 1847, for adding to the length of the pier at the Harbour of Courtown, on the coast of Wexford, which had proved an entire failure, from the channel between the solid pier being continually choked up with sand. Iron piles, with screws of 2 ft. diameter, to be driven from 11 ft. to 15 ft. into the sand, and blue clay, were decided to be used in order to form an open jetty through which the sand could be washed by the current, and the platform would be used for loading and discharging the shipping. The surf was so heavy on the coast that the usual barges or floating rafts could not be used for putting the piles down—so an ingenious plan was designed by Mr. Mitchell, for projecting a stage forward from the solid part, rigging a large grooved wheel upon the top of the pile, passing an endless rope band around it, and round a pulley fixed 150 ft. back, and then, by a number of men hauling upon the band, a rotary motion was communicated to the pile, which screwed it down very fast. By these means one bay of the pier, 17 ft. long, was finished daily, even in very rough weather. The entire length of the jetty was 360 ft., its breadth 18 ft., with a cross-head 54 ft. long, with landing stages at each end, and two lines of railway throughout. The entire cost of this extension was 4450*l*., or about 47*l*. 10s. per lineal yard—an extremely small sum compared to the cost of stone piers; but even that was more than the expense would be now, as the system of work is better understood, and materials are now cheaper. The account of the difficulties incurred in the execution of these works was most interesting, and in the commencement of the discussion, which was arrested by the hour for breaking up the meeting, ample testimony was borne by engineers of eminence, and men whose maritime experience gave weight to their opinion, of the superiority of Mr. Mitchell's screw-piles and moorings over every other system for holding buoys, or for supporting beacons and lighthouses, and their use was suggested for the foundation of bridges, viaducts, and numerous railway and other works, as well as a multiplicity of applications which had not hitherto been thought of.

It was announced that the discussion would be renewed at the next meeting, Tuesday, Feb. 29, when a paper would be read "On the Forms and Positions of Dock Entrances, particularly those in the River Thames," by J. B. Redman, M. Inst. C.E.

NEW CLASS OF LOCOMOTIVE.—We have pleasure in announcing that this town has lately produced a new patent locomotive engine, which, from its power and efficiency, so far as it has been at present tested, bids fair to supersede all the present classes now in use. This machine is the invention and manufacture of Messrs. E. B. Wilson and Co., of the Railway Foundry, Hunslet; and the novelty of construction consists of inside cylinders, without the usual appendage of a crank axle, the centre of gravity thereby being brought much lower, with other alterations and improvements, which we have not yet been able correctly to ascertain. The engine was placed on the Midland line of railway, on the 5th inst.; and Mr. Wilson, accompanied by other gentlemen connected with the foundry, and many of the engineers of this neighbourhood, started on a trip to York. They proceeded so satisfactorily as far as Church Fenton that they were induced to attach the new locomotive to a luggage train, consisting of 63 waggons, laden and empty, with which, to the astonishment of the officials, it "walked off" with the greatest ease, and ran into York in the most satisfactory manner. On the following day, the new engine was sent to the Midland Company, at Derby, who, we understand, are going to keep it to run on their line. Several trials have since been made. On one occasion, it took a few carriages from Derby to Rugby, at the speed of 75 miles per hour; and, on another trip, the speed reached 80 miles; but the greatest feat is, that it took a train of 53 loaded waggons, weighing 430 tons, from Derby to Rugby on Wednesday last, without difficulty. This is a load no other engine has been able to overcome on similar gradients; and is the more surprising, as this one was designed expressly for the purpose of competing with the speed obtained on the broad-gauge lines, and, consequently, never intended to cope with such heavy loads as 430 tons. There is every probability of this being a most formidable opponent to those on the broad-gauge lines. Much credit ought to be given to Messrs. Wilson and Co., for their enterprising and patriotic spirit in this particular—the engine having been constructed entirely at their own risk, and, had it not so completely answered, would have entailed considerable loss on them. The Railway Foundry is now one of the most extensive engine manufactories in the kingdom, and the rapid rise of it reflects additional credit on the perseverance and attention of the proprietors. They employ 1000 hands, and are turning out *seven engines per month*, and this at a place which, eighteen months ago, was only turning out *sixteen engines per annum*.—*Leeds Intelligencer*.

THE CONWAY TUBULAR BRIDGE.—We have been favoured by a correspondent with the following interesting particulars in reference to this stupendous undertaking:—The success of this magnificent experiment is now established, contrary to the calculations and opinions of nearly all the scientific writers and engineers of the day. The arch and the suspension bridge are certainly superseded by the wrought-iron girder, for all large spans, and especially for railway traffic. This invention is entirely due to Mr. R. Stephenson, and cannot fail to enroll his name among the lists of those truly great men, whose memories never perish. The practical construction of the bridge itself, as well as of the bridge over the Menai Straits, was confided by Mr. R. Stephenson, under his own immediate inspection, to Mr. E. Clark, whose calculations have been verified to a precision that could scarcely be hoped for; they were founded on experiments made by E. Hodgkinson, Esq., F.R.S., at the works of Mr. W. Fairbairn, of Manchester; and the confidence of the directors in Mr. Stephenson's opinion is most strikingly exemplified in the fact of their proceeding simultaneously with two such costly structures on the same novel principle, the works at the Straits being now in a very forward state. The span of the Conway is 400 ft., the section of the tube at the centre being a rectangle 25·6 by 14, the weight being about 1300 tons. It is constructed of rolled boiler-plates, varying ½ to ⅝ inch in thickness, and rivetted together with nearly 250,000 rivets, and containing a longitudinal row of cells at the top and bottom, about 20 in. square, from end to end. The ends of the tube are stiffened with cast-iron frames, and the whole was constructed on a timber platform, just above high-water mark, along the beach of the River Conway, about 100 yards distant from where it is to be placed. Stone piers were likewise built under each end, to support the tube when the platform was removed. The tube was not constructed straight, but with a rise in the middle, in order that its own weight might bring it straight; and so accurately was the calculation made, that on removing the platform it was within ⅛ in. of a straight line. The removal of the platform was a work of much difficulty and anxiety during two nights and days; the possibility of failure, the crashing of the timber as the entire weight came on it, and labour of cutting out the compressed wedges, alarmed the men. Precaution had been taken to prevent annoyance from visitors, which so well succeeded that no single individual was present, except the contractor, and Mr. Clark, the acting engineer; and at length the tube sustained its own weight, in a manner that put an end to all apprehension. The good tidings now spread, and Mr. Stephenson attended personally at the testing with extra weight; waggons 11 tons each, loaded with iron, were placed in, and removed, and the deflections carefully recorded; and on the 28th, the tube held 300½ tons, occupying a space of 260 feet of the centre, a weight far greater than a train of locomotives throughout the tube—the deflections always following their predicted law, being about 2⅝ in. for the 300 tons; and it was evident that double, treble, or six times that weight might with equal safety have been added. The preparations for floating the tube into its place, and the presses for raising, are now complete; and there is no doubt that both these operations will also be completed this month.—*Birmingham Journal*.

THE MOST EFFECTIVE CURE FOR GOUT AND RHEUMATISM IS HOLLOWAY'S OINTMENT AND PILLS.—A frequent cause of these complaints is the inflammatory state of the blood, as they are generally attended with bad digestion, lassitude, and great debility—showing the want of a proper circulation of the fluids; and that impurity of the blood greatly aggravates these painful disorders. Holloway's pills are of so purifying a nature, that a few doses, taken in time, are an effectual preventative against gout and rheumatism; but any one that has an attack of either, should use Holloway's ointment also—the powerful properties of which, combined with the effect of the pills, ensure a certain cure.—Sold by all druggists, and at Professor Holloway's establishment, 299, Strand, London. 36

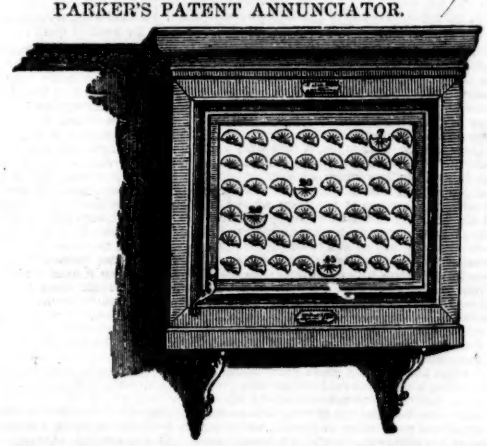
IMPROVED COMPOUND CYLINDER ENGINE.

Messrs. Bacon and Dixon, of Bury, Lancashire, engineers, have secured letters patent for certain improvements in steam-engines, which they describe in their specification, enrolled on the 19th instant, to apply to that class of engines termed "Woolf's," or compound cylinder engines—in the ordinary arrangement of which, the content of the passage from the exhausting valve for the high-pressure cylinder to the inside of the low-pressure cylinder, forms a large proportion to the contents of the high-pressure cylinder. This content, or space, is filled at the conclusion of each stroke, whether upwards or downwards, of the low-pressure piston, with steam of the same density as in the low-pressure cylinder, which, in many cases, is 6 or 7 lbs. below the pressure of the atmosphere, or even of still less density. On the return of the pistons, the steam used for the preceding stroke of the high-pressure piston, in the high-pressure cylinder, is admitted into the passage, or space, above mentioned, and into the low-pressure cylinder, mixing with the above-named rarified steam; and, consequently, the steam in proceeding from the high-pressure cylinder to the low-pressure cylinder, is considerably reduced in pressure, without producing a corresponding useful effect on the pistons. The object of these improvements is to remedy, in a great measure, the defect above mentioned, and, at the same time, to simplify the construction and increase the efficiency of compound cylinder engines. To effect these objects, the passages, valves, and openings, are arranged in such a manner, that the exhausting valves for the high-pressure cylinder, which forms the steam valves for the low-pressure cylinder, are placed as near as possible to the ports, or entrances, of the low-pressure cylinder. In consequence of these arrangements, the passage between the steam valve for either end of the low-pressure cylinder, and the opposite end of the high-pressure cylinder, is constantly filled with steam of the same density as that in the high-pressure cylinder—therefore, the content of the passage from the valve to the entrance of the low-pressure cylinder is the extent of the increased space the steam will have to occupy for the commencement of the stroke in the low-pressure cylinder; consequently, the pressure of steam will be reduced but in a very slight degree, and a more perfect expansion of the steam in the cylinder be obtained, and produce a more effective motive-power from the engine.

The advantages of these improvements consist—1st, in remedying the defect hitherto found to be of serious disadvantage to compound cylinder engines, as heretofore constructed, by reducing the pressure of steam as little as possible in its passage from the high to the low-pressure cylinder—consequently, increasing the average pressure on the low-pressure piston, and thereby obtaining a greater motive-power from the engine; 2d, simplicity of construction; in this respect, they much resemble the arrangement for the ordinary single cylinder engine; 3d, in the arrangement of conical valves, chiefly intended for the larger class of engines, whereby any amount of expansion or compression of steam can be obtained in either high or low-pressure cylinder, with all the advantages above described; 4th, in situations where compound cylinder engines are at present employed, and where a deficiency of power is felt, these improvements afford an effective means of obtaining it at a comparatively small expense.

Patent-office and Designs Registry, 210, *Strand*, Feb. 24.

PARKER'S PATENT ANNUNCIATOR.



In the *Mining Journal* of the 12th inst., we gave a brief notice of this new bell machinery—the above diagram representing a case sufficient for a house with 48 rooms. It is a highly ingenious invention, and will prove of great utility in hotels, public offices, mansions, steam-boats, &c.—for, whatever number of rooms there may be, one bell only is required, and the particular room is indicated by a corresponding number appearing on the face of the machine. The following is a description of the construction of the apparatus:—A suitable bed, or foundation plate, is made of a size corresponding to the number of rooms, in which are grooves cut in a horizontal direction; in these grooves, bars, consisting of strips of metal properly secured by studs, slide; they are connected with suitable cranks and levers, in such manner, that when pulled backwards they immediately raise a hammer, which strikes the bell; and they are, on the bell-pull being released, drawn back into their places by barrel springs. On the face of the foundation plate, which is the part exhibited to view, numbers are painted, corresponding with the several rooms, cabins, &c., each covered with a semicircular piece of sheet metal, moving on a pivot in the centre of the cord of the arc, in such manner, that when the circular part is upwards, the figure is covered; but when one of the bars is pulled back in the groove, it draws down the semicircular shield, and discloses the figure at the same instant the bell is struck. On pulling a cord attached to a lever, seen on the bottom left-hand corner of the cut, which the servant would do the moment the figure was recognised, the covers resume their places over the figures.

The advantages of this invention are—1. The small space occupied—so that the signals for a suite of 300 rooms will require a square of only 30 in., by which the eye, at the distance of 4 or 5 ft., will embrace the entire number at a single glance.—2. Certainty of action—so that, when the signal is made, there can be no error as to the apartment wherein attendance is required; and the number of the room remains unmasked until responded to by the servant, thereby preventing the confusion and loss of time, which often arise with the old method, in ascertaining the particular bell agitated, or if more than one were touched at the same time, and whether the order to answer the call has been given or not.—3. Compactness, simplicity, and non-liability to derangement—as, when once adjusted, it is free from dust, requires no care, or attention, to ensure good performance, and subject to no wear and tear.—4. It is both convenient in its adjustment, and ornamental in its appearance, as the case enclosing the apparatus may be made to suit the furniture of the apartment, or please the taste of the proprietor; and it can be placed against the wall, or otherwise, before the table, desk, or seat of the servant. It may be readily adjusted to the wires of an old suite of bells.

IMPROVEMENT IN SHIPS' RUDDERS.

One of the greatest difficulties, and one fraught with most immediate danger, among the casualties of vessels at sea, is the loss of the rudder during boisterous weather—when, from the difficulties of shipping another, the ship is left to the mercy of the elements, perfectly uncontrolable, and too frequently, under such circumstances, is hurried on to destruction. It appears, on reflection, a most singular circumstance, that while, for ages, everything around us has been undergoing improvement and change, the ship's rudder has remained the same since the Romans ploughed the Atlantic, or the Phœnicians wended their way, to obtain the tinny produce of the Cornish shores. Truly, it is a ship's right arm, and, probably, cannot be improved in shape; but it is most openly exposed to the assaults of a raging sea. Any plan, founded on sound nautical and mechanical principles, which would leave a ship under complete command when her rudder is carried away, must be of vast importance in nautical affairs; and we are happy to say, an invention has been lately patented, which has been proved completely successful. It is the invention of M. Fouque, a French gentleman; and consists of two metallic rudders, hung one on each side the principal rudder, on the angles of the stern-post, in such manner, that when not required they fold back against the sides of the stern of the vessel in a recess, so as to be perfectly flush with her sides, and form no impediment to her passage through the water. In case of an accident to the rudder, one or both of these supernumeraries are unlocked, and brought into action almost instantaneously. They are made of iron, copper, bronze, or other metal, and weigh jointly about three-fourths of the weight of the original rudder. Testimonials, as to their merits, have been received from captains, who have experienced their utility—they can be affixed to any vessel, and are coming into considerable use in France, where they are adopted for the ships of war.

Mining Correspondence.

ENGLISH MINES.

BARRISTOWN.—The lode in the 18 fm. level end, west of Slob shaft, still produces stones of ore, but not in sufficient quantity to pay for driving the end; the pitches in the backs are rather poor, but pretty much the same as last reported. The Slob and Kiln shafts are sinking with all possible dispatch. The lode in the adit end is about 2 ft. wide, producing about ¼ ton per fm. in the gossan; the back behind this end is working on tribute. The water still prevents us from doing anything at Nangle's shaft. We have suspended the 18 fm. level end west for the present.—Feb. 19.

DEAN PRIOR AND BUCKFASTLEIGH.—The lode in the pitch, in the back of the 20 fm. level, still holds out its very promising character, is about 4 ft. wide, 2 ft. of which is good saving work—ores of good quality. In driving the 10 and 20 fm. levels the prospects are of a very encouraging nature, inasmuch that I stated from my practical experience, and judging from the indications in the two levels mentioned, that there was every prospect of meeting with a shoot of ore between the 10 and 20 fm. levels, and I am glad to state that my assertion is verified, the present appearance of the pitch holding out a prospect of the tributers doing well. The lode in the 20 fm. level, driving west, is large, composed of capel and spar, and carrying a small string of flookan near the south wall, just of the same nature as in the levels further east, where the lode has been productive—a promising lode. The engine-shaft is sunk upwards of 10 fms. below the bottom level, or 30 fms. below the deep adit. The sumpmen are engaged sinking a fork, and, as soon as completed, will commence dividing and casing down the shaft, in order to bring the whim-kibble to that level, so that no time may be lost as to cross-cutting to cut the lode in the 30 fm. level. We have fixed the crushing-rolls, and are making every preparation for dressing the ores, although the weather has been greatly against the masons in the past week in getting up the walls, but we shall use every effort for carrying the work into effect in all its branches.—Feb. 23.

DEVON AND COURTENAY CONSOLS.—The lode in the end driving east on the gossan lode is 18 in. wide, and is getting larger, composed chiefly of spar and strong white mundic; but as we are only a few feet from the slide, we cannot expect much improvement in this place. In the end driving east on the south lode, the lode is not so good as when last taken down, being now about 1 foot wide, composed of spar, mundic, and spots of ore; and I think, from its regular appearance, it will soon again improve. In the end driving west on the same lode, the lode is 1 ft. wide, and is not so orey as last reported, but is still, however, a very kindly lode, and will, I have no doubt, in driving a very little way, be as good as before; the lode altogether has a very good appearance. Our sumpmen are sinking the engine-shaft with all possible speed; the ground continues favourable.—Feb. 22.

EAST CROWNDALE.—The ground in our engine-shaft continues a close blue killas, intermixed with small branches of spar, containing copper ore of a rich quality; we have sunk in the past week 4 ft. The north lode, in the 47 fm. driving west, continues to yield a good quantity of copper ore, and is just the same, with regard to appearance, as when last reported upon, producing about 10*l.* worth of ore per fm. The engine shaft at Rix Hill is suspended for the present—it being impossible to sink, owing to the great quantity of water. The men are busily engaged raising stones for the new engine-house which the engineer has marked out—the foundation for which we shall at once begin to clear out.—Feb. 19.

GALLOWAY.—The lode in the shaft sinking here appears large, principally composed of spar, with a little flookan, some mixture of prian and gossan, with a great increase of water. Some stones of lead have been discovered a short distance from this shaft by the men since my last visit; but as Captain Dunstan and myself propose visiting this concern on Monday next, I will write you more particularly.—Feb. 19.

HOLMBUSH.—The lode in the 120 fm. level north is 3 ft. wide, composed of quartz, prian, and lead, worth 5*l.* per fm.; the lode in the south end in this level is 3½ ft. wide, composed of quartz and lead, worth 5*l.* per fm.; we have just commenced a rise above this level, where the lode is of the same size and composition, producing saving work. The lode in the 110 fm. level south is 4 ft. wide, composed of quartz and stones of lead, worth 6*l.* per fm, with a large stream of water issuing from the bottom of the level; having within the last 6 ft. driving drained the back of the level quite dry, which previously had been so wet; the lode in the stopes, in the back of this level, is 6 ft. wide, the principal part of which is quartz, with stones of lead scattered throughout the lode, at present producing 5 cwts. of lead per fm.; the lode in the 110 north is 5 ft. wide, composed of quartz, with occasional stones and spots of lead; the nature of this lode hitherto has been a very bunchy one indeed, scarcely two days alike; but in order to have all the lead (to use an old phrase), we must stope all the ground; in cutting east in this level at another point, about 12 fms. north of the former cross-cut, we have intersected the lode, which is 3 ft. wide, composed of quartz and stones of lead, and are now driving south on it to communicate to the level coming towards it. The lode in the 100 fm. level south is 20 in. wide, composed of spar and lead, saving work for the stamps; in driving east in this level the east and west branches are still in a disordered state, and smaller than when last reported on; the cross-cut east in this level is for the present suspended, having driven so far in that direction, as we think we are justified in doing, until the lode is further developed from the back of the 110; the pitches in the back of this level are much the same as when last reported on. In the 90 fm. level cross-cut east we have intersected the lode, which is 20 in. wide, of spar and spots of lead.—Feb. 22.

KIRKCUDBRIGHTSHIRE.—In presenting you a general report of our operations and prospects in this mine, in continuation of mine of Dec. last, I beg to state, that the 50 fm. level has been driven 10 fms. west, in which end the lode is from 4 to 5 ft. wide, producing about ¼ ton of lead per fm., and ground more favourable for driving. The 40 fm. level has been driven west 41 fms. 2 ft. from the engine-shaft, in which the lode is divided by a horse of ground; the north part of it is 18 in. wide, producing 15 cwts. of lead per fm.; the winze sinking under this—say about 7 or 8 fms. before the bottom end—continues to look well; that part of the lode on which we are sinking produces about 1 ton of lead per fm.; the other part of the lode north also contains a fine mixture of lead, but how wide we cannot exactly say, until the lode is fully laid open; this we shall be able to do more economically after the winze is holed to the 50 fm. level—say in the course of six or seven weeks, with good speed. Four pitches are at work in the back of the 40 fm. level, employing 12 men, at tributes varying from 3s. 10s. to 5*l.* per ton. The 30 fm. level is holed to Keith's shaft, 62 fms. west of the engine-shaft; the lode at this point—and say 7 or 8 fathoms in length, as also 5 or 6 fms. in height, in said shaft—is about 4 ft. wide, and produces upwards of 1 ton of lead per fm. The men engaged here are busy cutting a plat, with a view to resume driving west, and to sink this shaft under this level with all possible speed. We have fixed a railroad in the shaft, and expect the tradesmen will finish the head gear and surface erections in course of the coming week, to enable us to commence drawing stuff, which will be a very important object to the mine. Three pitches are at present at work in the back of this level (not on the ore named), by 10 men, at tributes varying from 4*l.* to 5*l.* per ton; and one pitch in the bottom of ditto by three men, at 5*l.* per ton. In the back of the 20 fm. level we have four pitches at work by 15 men, at tributes from 4*l.* to 5*l.* per ton, and one pitch in bottom of ditto by two men, at 5*l.* In the past month we have raised 58 tons 16 cwts. 1 qr. of lead ore; but the severity of the frost having delayed our progress in drawing of stuff, our operations underground have, in some measure, been delayed also; but we shall shortly overcome this, if the weather continues favourable; and, on the whole, the prospects of the mine may be considered very promising.—Feb. 19.

LAMHEROOE WHEAL MARIA.—The K lode, in the Orchard shaft, is improved in its character; we have hitherto found it hard to sink upon, and were compelled, in order to facilitate the sinking, to sink by its side, taking care occasionally to cut into it to ascertain its character, &c.; on cutting into it last week we find it much easier to sink on than even the country surrounding it—this is, of course, encouraging; and, in addition, as I have already stated, its character also improved—it is composed principally of mundic, with beautiful stones of ore, prian, &c.; we have already cut 6 ft. into it, without reaching its north wall. On driving west in the 30 fm. level, from shaft, on one of the branches which incline towards this lode, we have driven a cross-cut to reach the lode, as I found, by taking the extended bearings of this branch, that the point of intersection is some fathoms further west, and are now cutting through it; as soon as we have accomplished this, we shall loose no time in driving on it towards the junction of the branches, and the Orchard shaft; we shall then be enabled to drive more speedily and cheaply, and not only lay open the lode, and ascertain the influence of the junction of these branches upon it, but, by communicating with the Orchard shaft, effectually ventilate this part of the mine.—Messrs. Johnson and Sons, of Gresham-street, report that—"The sample of mineral assayed for Mr. Newman, contains 5¼ per cent. of fine copper."

LEWIS.—I find the lode in the rise, in the back of the 70, against the sump-whim shaft, is 2 ft. wide, producing some good quality tinstuff, such as I have not seen heretofore in sinking the said shaft from the adit to the 60 fm. level; the lode in the 60 fm. level end east is 2½ ft. wide, opening good tribute ground; the lode in the 60 east, on the south branch, is 18 in. wide, worth 15*l.* per fm.; the lode in the 60 west, on the south branch, is a little improved, worth 17*l.* per fm. I cannot speak of any particular alteration in any other part of the mine since my last report. The tributers are working with spirit, and making fair wages at their different tributes.—Feb. 19.

LOSTWITHIEL CONSOLS.—The mine is progressing as usual, the ground harder last week, but eased again now. We all hope to be in course for driving in the 30 fm. level by the end of next month. The men are all pleased with our prospects, working hard, and are eagerly looking forward to commence the level, and see the lode (Milham, or No. 4)—Feb. 19.

MENDIP HILLS.—The lode in the 38 fm. level, south of Stainsby's shaft, has taken a more easterly direction than we have hitherto seen it in this part, its present bearing being about 35° east of south; this alteration, I consider, arises from the intersection of the lode mentioned in my report of the 7th inst., the appearance of which continues precisely the same as last week, composed chiefly of flookan, spar, and iron—more favourable for driving. In the slag department, we have this day commenced opening the cutting sufficiently wide to extend the tram-road further up the valley, in order to reach the richer slag ground as soon as possible. During the past week we have worked the furnaces two days, and I find the average produce of the slags smelted to be about 16½ per cent. of metal.—Feb. 21.

STRAY PARK AND CAMBORNE VEAN.—In the rise, above the back of the 60 fm. level, the lode is 8 in. wide, yielding 1 ton of ore to a fm.; in the 60 end, driving west, the lode is 1 ft. wide, yielding 1 ton of ore to a fm. In the 70 end, driving west, the lode is small and unproductive. In the 80 end, driving west, the lode is 18 in. wide, yielding 2 tons of ore to a fathom. In the 90 end, driving west, the lode is 3 ft. wide, yielding 5 tons of ore to a fm.; in the winze, sinking below the 90 fm. level, the lode is 15 in. wide, yielding 2 tons of ore to a fm. In the 100 end, driving west, the lode is large and promising, but not rich; in the rise, above the back of the 100 fm. level, the lode is 3 ft. wide, yielding 4 tons of ore to a fm. In the 110 end, driving west, the lode is 18 in. wide, but unproductive. In the 120 end, driving west, the lode is 18 in. wide, yielding 2 tons of ore to a fm. In the 130 end, driving west, the lode is 16 in. wide, yielding 1½ ton of ore to a fm. In the 150 end, driving west, the lode is 2 ft. wide, yielding 2 tons of ore to a fm.; in the cross-cut, driving south, in the 150 fm. level, the ground is favourable, price 5*l.* 15s. per fm. In the 180 end, driving west, the lode is 18 in. wide, yielding ¼ ton of ore to a fm.; in the 180 end, driving east, the lode is 1 ft. wide, yielding good stones of ore. In the cross-cut, driving south, in the 56 fm. level, at Wheal Francis, we have met with the elvans, which is a favourable indication; we hope to intersect the lode in the course of a few weeks. The tribute ground is looking very well.

TRELEIGH CONSOLS.—The 120 cross-cut, north of Christoe's, is driving to cut the lode. In the 110, east of ditto, the lode is 3 ft. wide, with stones of ore only. The 100 south, east of ditto, is driving south-east on the slide. In Garden's shaft, below the 100, the lode is large, with mundic, spar, and stones of ore, very promising; in the 100, east of ditto, the lode is 3 ft. wide, but little mineral; in the rise, above the 100 west, the lode is 2½ ft. wide, with a small quantity of ore. In the rise, above the 90 west, the lode is 2 ft. wide, worth about 3*l.* per fm.; in the winze, below the 90 west, the lode is 3½ ft. wide, worth 6*l.* per fm.; in the rise, above the 90 east, the lode is 2 ft. wide, worth 15*l.* per fm. In the 80, west of Garden's, the lode is 20 in. wide, worth 2*l.* per fm. In the 70, west of ditto, the lode is 18 in. wide, worth 3*l.* per fm. In the 60, west of ditto, the lode is 2 ft. wide, with stones of ore only, but rather of a promising nature. Wheal Parent engine-shaft, below the adit, we shall commence sinking on Monday next in the country.—Feb. 19.

WEST WHEAL JEWEL.—In the 57 fm. level, west of Williams's cross-course, on Wheal Jewel lode, the lode is 20 in. wide, worth 12*l.* per fm. In the rise, in the back of the 70 fathom level, west of Williams's cross-course, on the same lode, the lode is worth 5*l.* per fm. In the deep adit, west of Williams's cross-course, on the same lode, the lode has not been taken down in the past week. In the 30 cross-cut, south from Tolcarne tin lode, the ground is favourable for driving. In the 20 fm. level, west of Quarry shaft, on Tolcarne tin lode, the lode has not been taken down in the past week. In the deep adit, west of Quarry shaft, on the same lode, the lode is 18 in. wide, worth 5*l.* per fm. In the shallow adit, west of Quarry shaft, on the same lode, the lode is 18 in. wide, unproductive. In the stopes, east of Pryor's winze, in the bottom of the adit, on the same lode, the lode is 5 ft. wide, worth 35*l.* per fm. In the stopes, west of Pryor's winze, in the back of the 12 fm. level, on the same lode, the lode is 5 ft. wide, worth 28*l.* per fm.—Feb. 21.

WEST WHEAL MARIA.—The western engine-shaft is down below the 64 fm. level about 3½ fms., the ground in which is much the same for sinking as last week.

WHEAL ADAMS.—We have timbered and secured the new engine-shaft above, and have commenced clearing it up below the 50 fm. level. Should the timber be found as good as we anticipate, we shall reach the 60 in one month from this time. The jack lode, in the 40, has been opened on; and though the ground is very favourable for exploring, the vein of blende is, at present, small; however, the indications are favourable, and we doubt not but that an improvement will soon take place. We have cut a part of the lode in the 18 fm. level, which is 6 in. wide, producing fine stones of lead; but as a white, decomposing porphyry is still found to the west of it, we propose driving a few feet further. The pitches above the 50 fm. level are deteriorated—they have not been very productive during the last fortnight, but those in the 50 fm. level are producing a fair quantity of good work. We hope to sample, on Saturday next, 30 tons of lead ore. The copper ore, mentioned in one of our former reports, is not lost sight of. We wait the arrival of assay pots, otherwise the results would have been forwarded to you in due time.—Feb. 22.

WHEAL BENNY.—In reply to your inquiries about our proceedings at Wheal Benny, I beg to inform you, that I have set the shaft to sink from the 20 to the 30 fm. level, for the sum of 165*l.*; this includes cutting the cistern and the whim plats, fixing lift, timbering and dividing the said 10 fms., filling, landing, and drawing the whole of the stuff to surface. We have suspended the 20 fm. level driving towards Ford lode, as we are nearly to it; and, in the event of our cutting it, should inevitably be drowned. The cross-cut south is still driving.—Feb. 23.

WHEAL LOUISA.—On recommencing operations here, I beg to state, that we have got the engine all right, and have drained the mine to the bottom. I find the 20 fm. level is driven about 30 fms. on the course of the lode, which is unquestionably of a very promising character, and averages about 9 or 10 ft. wide, composed of flookan, spar, killas, mundic, and a little copper ore. The shaft is sunk to the 30 fm. level, and a cross-cut towards the lode driven about 5 fms.; judging from the appearance of the underlay in the 20 fm. level, we have to drive from 3 to 4 fms. more to cut it; the ground is similar to that in the level above; small stones of yellow copper ore have been broken from a branch in the cross-cut; the men are now employed in driving this cross-cut, in order to cut the lode as quickly as possible. I am happy to state, that the engine and materials here are in excellent condition, and for about 30*l.* the engine can be rendered capable of draining the mine to the depth of 60 fms., by bringing the water over the wheel; I yesterday levelled and marked out the leat for that purpose, when wanted.—Feb. 17.

WHEAL TRESCOLL.—We have this week together driven in the two adits 52 fms.; the part nearest the moors was open cutting, and very troublesome—the shelf being so soft, it would not bear the weight of the surrounding superincumbent earth, and, therefore, boiled, or broke up. We have been obliged to put in culverts of strong timber, the pressure being very great. Those difficulties are, however, now surmounted, and we have got into close driving; the ground stands very well, and the men are earning very fair wages at the price they have taken it at. Yesterday we cut a very fine lode 5 ft. through, carrying fine stones of tin; I have called it D 1, being, I anticipate, a branch from the lode marked D on the plan. In the western adit, we have encountered one of those obstacles very common near the surface in this part—viz.: an immense boulder of solid granite, 8 ft. long by 4 ft. thick; we have been obliged, therefore, to get it to pieces by blasting—otherwise the rocks are progressing to the satisfaction of the contractors, and also to the company. We hope to cut the grand lode, which is only 35 fms. off, about the latter end of next week. We never had men so eager to press forward with their work before as we have on this occasion. A great deal of excitement prevails in the neighbourhood about the cutting this grand lode, for it is supposed to be one of the richest lodes in the county.

FOREIGN MINES.

ALTEN MINES.—The following is the estimated produce for December:—

Mines.	Tons ore.	Per ct.	Tons copper.
Raipas	70	6½	4·30
United Mines	20	6½	1·25
Ryper's	5	6	0·30
Mancur's	5	5	0·25
Michell's	16	6	0·96
Old Mine	28	6	1·68
Powder House	3	6	0·19
Carl Johan's	1	6	0·06
Cole's	2	4	0·08
Quœnvig	2	8	0·16
New Lodes	3	5	0·15
Total	155		9·45

Mining Report from the 29th December, 1847, to 10th January, 1848.

Raipas.—The 5 and 10 fm. levels have undergone no further change, but the course of the lode appears to have turned suddenly towards the north-east, and we are now making preparations for exploring it in this direction. In Monk's shaft a large and unusually promising lode has been intersected; its size is not yet determined, but it is equally as rich and promising as any part of Labouchere's lode at the shallow levels. The part of the lode explored consists wholly of gossan, imbedding rich purple ore, intermixed with red oxides and blue and green carbonates of copper; the ground is very favourable for sinking, and the shaft has already been sunk about 5 fms. below the 10 fm. level. I visited this place a few days ago, and consider the indications to be much more promising than any former discovery in this mine at the same depth; from the appearance of the ore, and the lode generally, it is evident that we have not obtained a sufficient depth, where the ore may be expected to be found more compact, and collected in the lode. I also inspected the 20 fm. workings, for the purpose of determining on the most advantageous method of forming a communication with Monk's shaft; this place is, however, full of ice, to the depth of about 10 ft.; and, in consequence of the workings having been suspended six years ago, much preparatory work will be necessary before they can be resumed. We will use every endeavour to expedite this work as fast as possible, for the purpose of exploring Labouchere's lode in depth, more particularly on account of its holding out the best hopes of ultimately becoming the main-stay of your establishment. Carr's lode, and stopes in other parts of the mine, continue to make the usually good returns.

United Mines.—The prospects are somewhat improved, but during the winter I cannot venture to hold out the hope of any increase in the produce. At Woodfall's, the great accumulation of ice prevents our prosecuting the deeper workings, except at a considerable extra expense, which at present I did not think we should be justified in incurring; and, in consequence, have suspended all operations below the 35 fm. level until the summer. The tributers will continue on the shallow workings as heretofore.

Ryper's.—No improvement has taken place, and the greater part of the stopes have been suspended. All further operations at this mine on tribute must now be postponed until the summer, when we shall be able to resume the surface work.

Maneur's.—Here also we have been obliged to suspend the tributes for the present, and during this month we propose exploring some of the old stopes on tutwork.

Michell's.—The tributers are working with good spirit, and make fair returns of ore of an excellent quality. The prospects are also improving.

Old Mine.—The ice is now sufficiently strong to enable us to resume the old eastern workings above Bergmeister's. The lode in this part of the mine is very promising, and we have been enabled thereby to materially increase our returns of ore.

Powder-House, Cole's, Quanvig, and *New Lodes* continue as last reported, with the exception of the new lode under the old mine, the further exploration of which must now be postponed until the summer. In consequence of the almost total absence of snow, and the immense accumulation of ice on the roads, together with an unusual continuance of boisterous weather, with severe cold, we have been prevented from returning so much ore to the smelting-house as we had expected. Our total delivery since the last ore note was forwarded, amounts to 216 tons. We hope to be able to return the greater part of the Raipas produce in time to forward the delivery note with next post.

BOLANOS MINES.—EL BOTE, *Jan.* 6.—Since my last communication, dated Dec. 2, I beg to inform you, that the sinking on San Genaro shaft went on exceedingly well until the last week in the month; when, having cut a large stream of water in the Victoria cross-cut, it completely drove us out of the shaft for a few days; but as the water has comparatively drained itself to the level of the cross-cut, we have again been enabled, by putting the two malacates to drain the shaft, to resume the sinking. In Victoria cross-cut the ground is favourable for driving, and we have advanced 10½ varas during the month. In the cross-cut of San José we are progressing as fast as the nature of the ground will allow us to do, and no further discovery has taken place since I last addressed you. In the cross-cut de la Compania, the ground has become much harder for driving—consequently, our progress is slow. In Guadalupe east, the vein has been very much disordered and poor during the month; but within the last three or four days, there has been a decided change in its condition, it having opened out from about one vara wide to at least three varas, and we have now some very good pintas coming in, and I hope soon to see a good vein again in this level. In the level south of Providencia, we have driven to the south wall of the vein, and it has, in consequence, been stopped. In the rise in the back of San Antonio we are still raising some very good ore; but as the bunch is short, we can work but a few parados on it; therefore, we are limited as regards the quantity of ore extracted from this point.

Jan. 7.—The unfavourable ground that we have met in driving the Compania cross-cut, still impedes the progress of the negociation. The ground in the Constantia cross-cut was so good, that in 19 weeks the 54 varas were driven to the vein; and, although I did not expect that such good ground would be found in the Compania, still I did not think that it would have been of the nature we have met with; for these reasons, this working has been retarded much longer than either Mr. Manuell or myself expected. I mentioned to you in my last the severe weather that had set in. This continued without interruption until the 27th December, and threw us back considerably. The intensely cold weather kept our half-clothed workmen within doors, and all the month there was a great scarcity of them; and this, added to the great number of feast-days, has thrown us back in the extraction of ores. I need not point out to you the loss that occurs in a negociation like this, when any day is lost by the workmen not going down, whilst the general expenses, drainage, &c., always continue. From the 1st to the 6th inst. we have had three feast-days. I hope, however, that in the rest of the month there will be no more drawbacks on this account. The cold weather has also completely retarded the beneficio of the ores; and you will observe, that in the month of December only 230 montones were washed, whilst 592½ montones were ground. This causes the month to appear with a loss of $13,754 1½. The averages leyes of the ores extracted during the month kept up to 8 marcs, until the week of the 24th ult., when they fell to 6·80, on account of the ores not being so good in the planes. I calculate that the loss in the month (taking the ores at the above averages) was not more than $1500.

Jan. 3—CELESTINA MINE.—From the report you will see that Celestina has continued on the decline. The small quantity of ore still remaining in the backs of the Providencia level can last but a few weeks, and at present the ends show little promise. The cross-cut to the principal lode has cut the vein so far in a barren state; still, as their seems to be more vein behind, it will be necessary to proceed, at least another week, until the rock of the country is clearly manifest. The Refugio end is now stopped, being somewhat more expensive than the others, and showing nothing to encourage us. The ends of Providencia and Guadalupe I should wish to carry on still a few weeks, for the reasons stated by Mr. Lorck; in the mean time, I am curtailing other expenses as far as possible, in salaries and otherwise.

SAN FRANCISCO DE PAULA.—We have discovered ores in the fifth cross-cut of very good quality, which would appear to appertain to the Piedad vein, and I think we are coming immediately on the upper wall of Rayas. I shall penetrate but a very little distance into this lode, if it does not indicate a different character from what we have observed in the higher cross-cuts. In the fourth cross-cut, I shall merely finish cutting the lode, which we appear to be approaching; and if not in ores, shall stop this work for the present. In the mean time it may be advisable to continue the footway down to the fifth cross-cut, to enable us to work upon the ore we have found there to greater advantage.

LORETO MINE.—In San Ignacio, the cross-cut north has cut the vein we were seeking, without ore, and will, in consequence, be stopped. Some buscones have found very rich ores, though narrow, on the San Clemente or San Nicolas vein; and perhaps, on farther examination, it may be thought prudent to open an end on this point.

Bolanos Transport.—The remainder of the San José engine, including the pitwork, will be delivered in the Bote next week; and I have directed Dr. Butter to make out an account of cost of transport, particularising the different branches of expense, which I hope to forward you by next packet.

IMPERIAL BRAZILIAN MINES.—*Gongo Soco, Dec.* 13.—Gongo Mine presents nothing new; and, during the Christmas week, there will be a conference between all the mining captains and myself, to decide whether any inducement may yet remain for the continuance of underground workings, or whether we had better devote our labours to the clearing up of the still unwashed rubbish of the surface only. We had hoped to have obtained a little more gold from the bottom of Bananal; but at the very hour when we hoped to have worked on the vein again, the old gudgeon wheel broke, and our expectations were disappointed. The damage was instantly repaired, as some of the iron work obtained with the mine exactly fitted the place; and I hope our next 10 days' return may give a little from the very bottom of the mine; but it will be very little. The portion of our new deep adit, near Walker's shaft, has given us a little trouble; but it is now going forward well; and the other three stations, in the same level, are being driven with the utmost vigour in very favourable ground. I hope you will sanction our having offered the men a reward of 100 milreis, if they can complete the communication between the upper adit shaft and the lower ("tail") part of the adit within a short time, specified by the captains. The wooden framework, for the new water-wheel, is in a forward state; and I hope that the washing-house, and the captains' watch-room, will have been been completed before I have again the honour of addressing you. The saw-mill is not yet roofed, and our progress there has been but slow. During the first 10 days, we have had very heavy and long continued rains; but I am happy to say, that we were so well prepared for them, that they have done us no damage. Our gold troop in charge of the very intelligent and active miner, Thomas Gray, will leave, on its way to Rio, to-morrow, taking the 48 lbs. 4 ozs. 11 dwts. 20 grs. troy of Gongo gold; 5 lbs. 0 ozs. 18 dwts. 4 grs. of Bananal gold—together, 53 lbs. 5 ozs. 10 dwts., exclusive of the Government duty of 10 per cent. paid here. I am exceedingly obliged with your very early compliance with our requisition. It is vain to hope for working regularly at Bananal, until the new pumps are in their places. We are looking most anxiously for them, and I have ventured to request Messrs. Mackay, Miller, and Co., our agents at Rio, to promise the tropeiro, who may take them, a sum small per day for every day less than 40 days (the average time a Brazilian troop takes between Rio and this place) he may be on the road, in order to hasten their arrival.

Dec. 23.—We are employing in Gongo those persons only for whom we have not yet been able to prepare house room at Bananal, and we are stamping every substance that will yield gold. As soon as increased accomodation can be obtained at Bananal, we shall remove the greater number of people now here, and retain in Gongo such a force only as the produce will repay the expense of. The extent and depth of these shallow workings and washings will be entirely determined by their produce; and with your sanction we shall discontinue them all as soon as they cease to be remunerative, and we have house room for the people at Bananal. I regret to say, Gongo presents nothing new or worthy of notice. At Bananal we have taken four small boxes of work for the washing-house from the vein in the bottom of Thomas's shaft, which have given about 5 lbs.; we hope to sink about 3 ft. further in the same place, but we fear that attempts to go deeper with our present machinery would occasion serious damage to it; and when we stop sinking, we shall drive towards Walker's shaft, as well as towards another spot reported to have been left rich, exploring the jacotinga as we advance. We have given the old stamps a thorough repair, and it is now at work with 11 heads on the stone taken from near the gold vein in Thomas's shaft. The new adit is prosecuted with vigour, and the ground in it is favourable. All the surface and other works are advancing rapidly and regularly.

Gongo, Dec. 28.—Since my last we have taken two small boxes of work from the very bottom of Thomas's shaft, at Bananal, which have given 4 lbs. 7 ozs. 19 dwts. of gold.—Until the arrival of the new pumps, we shall not be able again to touch the vein at that place. I am happy to add, that if it has at all altered in quality since we last resumed working on it, it certainly has not diminished in value.

Gold Report.

1847.	From Gongo.	From Bananal.	Total Raised.
Dec. 3 to 23	lb 6 1 8 0	——	——
Dec. 3 to 23	——	lb 6 4 16 0	lb 12 6 4 0
Dec. 28—Bananal, as per Mr. Henwood's letter of this date			4 7 19 0
Making			lb 17 2 3 0
Total from Gongo, 1st July to 23d Dec., 1847	lb 86 9 13 0		
Ditto from Bananal, ditto ditto	61 9 0 0	—148	6 13 0
Bananal, 28th Dec.			4 7 19 0
Total			lb 153 2 12 0
Remitted from the mines	lb 53 5 10 0		
Deduct export duty, taken at Rio	1 0 16 4	—52	4 13 10
viz.: from Gongo, 48 lbs. 4 ozs. 11 dwts. 20 grs.; from Bananal, 5 lbs. 0 oz. 18 dwts. 4 grs. = 53 5 10 0—deduct export duty,	1 0 16 4	—52	4 13 0

which has arrived at Falmouth—value about 2300*l.*

NATIONAL BRAZILIAN MINES.—*Cocaes, Dec.* 12.—The inclined plane for the transmission of the stone from this place is getting on with capitally; the uprights, to which the cross-pieces will be fixed, for supporting the runners of the road, are all put in, and nearly all the runners laid down. The rails, waggon, and wheels, are getting in readiness as fast as possible; and we hope that, in the course of a fortnight, they will all be completed and set to work. A sample, taken this afternoon from the south side of the Cavaco shaft, produced an ottava of gold.

Produce from Cocaes	*Mix.*	6	2	0 32
„ Cuiaba		3	5	1 24
Total	*Mix.*	9	7	2 2

PACHUCA MINES.—*Jan.* 11.—Since I wrote to you last, on the 27th Nov., the San Guillermo shaft has been completed to the depth of 80 varas, and a level driven west 7½ varas, from which a cross-cut is at present driving south, to examine that part of the lode, which, in the 56 vara level, yielded a small quantity of ores, of good quality; and it is satisfactory to observe, that, although the cross-cut has only been driven about 2½ varas, good stones of ore are found in the vein.

REAL DEL MONTE MINES.—Extract from a letter, dated Mineral del Monte, 11th Jan.; received 25th Feb., per the *Tay* steam-packet:—

The principal work at present in hand in the Biscaina district, is the San Pablo winze, sinking below the 216 vara level, and which is now clear of the slide which disordered the lode above. In this place, although the lode is not rich, it has a promising appearance, producing good azogue ore, with a small proportion of the class for smelting. The ore raised in and near this winze has averaged from 4 to 5 montones of azogue ore weekly, and 1½ smelting ore. The workings on the Tapona vein have, of late, not been so productive as they were; but the 157 vara upper level, driving west, is producing some good azogue ore, of 30 mcs. per monton. As this level is exploring new ground, it may be considered one of the most interesting points we have at present in hand.

Santa Fnez.—The prospects of this mine are still favourable, and there is a probability of our being able to continue raising large quantities of azogue ores, containing, per mine assay, from 10 to 12 mcs. per monton.

San Ramon.—The masonry of this shaft having been completed to near the surface, I gave instructions to Capt. Rabling to proceed with clearing the bottom part, with the object of sinking the winze below the 80 vara level, which was commenced many years ago, but only continued to the depth of 10 or 12 varas. This will explore a piece of whole ground, above which the vein was formerly very productive; and, with the same object, we are driving the Aviadero east of Dolores.

Sacramento.—In this mine the principal work is the San Isidro, or 106 vara level, driving north and south. That going southward is producing a small quantity of good azogue ore, and in new ground, towards and under the old mine of La Trinidad, which was formerly very extensively worked, and produced much ore above the old adit.

Acosta.—Since I last wrote, the San Enrique level, east of San Pedro, has intersected the Santa Brigida vein; whereupon a large increase of water occurred, causing it to rise 8 varas above the level; and I regret to state, that, although the engines have been working during the last fortnight, to the extent of their power, they have not been able to lower it; and at Dolores the water is also still above the San Andres level. At the point where the Santa Brigida vein was intersected in the San Enrique level, it produced a little ore, of a very promising description; but, owing to the increasing of water, we were prevented from seeing much of it.

Moran.—We have succeeded with the small mine, on Santa Barbara shaft, in draining it; and also that of Moran, to the level of the Desenganae, which is at present driving east and west; in the western end the lode is 2 ft. wide, containing a small quantity of smelting ore, and is letting out a pretty deal of water, which, I trust, will soon have the effect of draining the labores below the Esperanza, upon which the returns will be increased; at present, the returns amount to 70 or 80 cargas of smelting, and 150 cargas of azogue, ore per week—the former containing about 90 mcs. per monton per mine assay, and the latter 20.

Rosario.—The appearance of this mine has of late somewhat improved; and, by employing 50 barreteros, we expected to raise 150 cargas per week, of 12 mcs. per monton, with a small quantity of smelting ore, which will rather more than pay the cost.

Regla Hacienda.—Owing to the bad weather in the last two months, already referred to, a great many persons usually employed in making carbon, and taking it to the hacienda, could not work; the consequence was, the fundiciones were idle for a considerable time, and the returns much smaller than they otherwise would have been; at present, however, the difficulty is overcome; and six furnaces are again at work, which I hope to increase to eight, which will smelt about two montones daily, and which quantity I do not expect to find any difficulty in supplying for some time to come. In consequence of the stock of lena at the mines being nearly exhausted, for reasons already explained, we were under the necessity of occupying the ore waggons to bring fuel, in order to avoid stopping the engines. The arrangement now made will secure us against a similar evil, and the haciendas will be well supplied with ores, of which there is a large stock at the mines.

Sanchez Hacienda.—At present 20 barrels are in full work at this hacienda, and reducing ores at the rate of 100 cargas per day. Mr. Artha has got the four remaining barrels in hand, which will complete the 24 in connection with the large wheel. The results of the beneficio at this establishment have, as usual, on the whole, been satisfactory; the loss of silver being from 8 to 9 per cent., and quicksilver 3 ozs. or 4 ozs. per marc, and this on the most rebelde ores we have.

Costs and Returns.—I have frequently explained the difficulty of making estimates of the returns, especially from the fundiciones; and, owing to the reasons already explained, you will notice that a much smaller quantity of ore was smelted in November than we expected, the consequence of which is an apparent loss of nearly $11,600. The treasurer has not yet been able to furnish me with the statement of costs and returns for Dec., in which the same causes have operated to prevent our making the estimated profit. With respect to the estimate for January, it would appear that we expect to do little more than pay costs; but every effort will be made to increase the returns, and make a larger profit.

ST. JOHN DEL REY MINES.—*Morro Velho, Dec.* 8.—Produce for Nov., 13,910¾ oits =133 639-1000ths lbs. troy—viz., 13,849 oits from 3816 8-10ths tons of ore = 3 62-100ths oits. per ton; and 61¾ oits. from Feixas, to 6th Nov., gives a total of 13,916 oits.

Cost for Nov., Rs. 24,645 407 (at 27½)	£2823	19	0
Produce, 13,910¾ oits.—less duties, 7 p. ct., 973¾ oits. = 12,937 oits., at 7s. 6d.	4851	7	6
Profit	£2027	8	6

In my letter of the 8th Nov., I prepared you to anticipate a diminished cost for that month—that anticipation has, as you will see, been fully justified, which is just now the more fortunate, as it neutralises, to some extent, the bad effect of the falling off in our produce—leaving a profit, which, though not so great as we had a right to have expected, is still very respectable, and will, I trust, on the whole, prove satisfactory to the board.

Mines.—I refer you to Capt. Treloar's monthly report for a detail of the operations in the mines, where, I have much pleasure in informing you, every thing is progressing in the most favourable manner.

Inclined Plane in the Cachoeira Mine. This is proceeding steadily, though with occasional interruptions, arising from the necessity of taking off the carpenters from time to time for other services. Capt. Treloar thinks it will be finished, and ready for trial, by the end of next month; he is planning some improvements upon Goyer's plan, which, he thinks, may render it more serviceable in practice.

Cachoeira Pitwork is also progressing with energy, and I have every hope that it will be completed, and in full operation, by the end of this month.

Western Exploration.—Capt. Treloar has some reason to believe that the exploring party at the western extremity of the Quebra Panella, or Champion, ground, have cut the lode. A short time will enable him to determine this interesting point.

Dec. 18.—Gold extracted to date, 5728 oits., from 254·1 cubic feet of sand = 22 54-100ths oits. per cubic foot. This produce is the result of 11½ days' stamping. The stamps working 18 days average 68 heads, and the supply of stone middling.

Western Exploring Party.—You will see by my diary of the 13th, that they have succeeded in cutting the lode, into which they had then penetrated, 3 ft.; but, as the ground is unusually hard, they have not yet been able to cut through the lode, so as to ascertain its thickness. There can be no doubt, however, of the great importance of this discovery.

UNITED MEXICAN MINES.—*Guanaxuato, Jan.* 3.—*Mine of Rayas.*—San Cayetano and its neighbouring points do very little for us—Santa Cecilia nothing, nor any present prospect of any thing; and Santo Toribio itself is less productive than it was—its ley of gold having fallen considerably, though it is yet good, but it fluctuates much from week to week. I enclose Mr. Glennie's report, dated 31st Dec. I annex the comparative statement of produce and outlay, for the six weeks ending Dec. 25th, which shows a decrease in both the hacienda ores and half sales, with small hope of improvement in either for the present. The water in the mine does not now increase, but I can say little more for it; in the last week it remained stationary—the week previous we lowered it one quarter of a vara. The holidays at this season of the year are very much against us in every respect.

6 weeks ending	Picked Ores.	Half Sales.	Outlay.
Nov. 13	Cgs. 2469	$8729 3 4	$28,492 3 4
Dec. 25	2151	6911 4 0	28,512 3 6
	Cgs. 309 Decrease.	$1817 7 4 Increase.	$20 0 2 Increase.

Quicksilver.—I have purchased 116 bottles for immediate use, and out of which but 40 bottles remain in store, the remainder being in use at the haciendas.

Remittances.—If a good and safe opportunity were now to offer, I should remit to the court $20,000. W. HEATH.

Report on the State of the Workings of the Mine of Rayas.

Dec. 31—*La Purisima.*—A small portion of ore is still extracted from this side of the mine, on hacienda account, and cleared on joint account by the dressers as hitherto.

San Pio and San Antonio.—The produce from these two points has been gradually decreasing, and at present is rather inconsiderable, although the quality of the ores continues good. In the former there is still some ore in the upper part of the lode, which will be extracted as soon as a dry wall shall have been completed that is now being raised for that purpose—this operation will occupy some time, as the scarcity of builders continues. In the latter, the ores are falling in proportion to its advance towards the north-west; during the last few days a small quantity of fair ore has been extracted from the south-east side of the old road, about the point where the "Auden" of San Pio existed; seven pairs of barmen are employed by day, and an equal number by night.

San Cayetano.—The pillar on the north-west side of the pit of LA LUZ has been reduced in size as much as could be done with safety; the two pairs of men have been removed to a roof in the level of San Pablo, above the pit of Guadalupe, where a small quantity of common ore is met with—this point is worked by night also.

Santa Cecilia.—In eight weeks this cross-cut has been advanced 1150 varas; a slight variation has taken place in the formation of the ground, and, although no distinct limit to the middle body of the lode has shown itself, there are in the advanced point small bunches of a formation of matter that has not hitherto been found in the middle body, but considered as peculiar to the upper body of the lode This work is situated in entirely new ground, and may consequently present some new features—an approximation of the two upper divisions of the lode may be one of them.

San Miguel.—The work of communication between the two cross-cuts has been finished, and another between the second cross-cut and the entrance to the level of Santo Toribio is being driven at both ends; five pairs of men being employed by day, and an equal number by night. On the side of the cross-cut four sets of men (*pueble sobre pueble*) are employed in the 24 hours. On the side of Santo Toribio the work is carried on more quietly, as the smoke caused by the shots is inclined to enter the level of Santo Toribio, which makes it necessary to fire the shots in the work of communication, after those in Santo Toribio. The extent of ground to be driven through, in order to open this communication, is now 21½ varas.

Santo Toribio.—The roof has varied in the general appearance and formation of the lode; but, during the last fortnight, only a few men have been put to work in this point, as it was found that the occasional want of good ventilation proceeded from the employment of too many men in this point, in which the hot air got confined. Since this variation was made, no difficulty, as regards ventilation, has been experienced. The end to the north-west has been communicated with the cross-cut, which is being continued, but without its presenting any improvement. The end (Santo Toribio) is yielding a fair quantity of good ore, principally extracted from the lower part of the lode, and corresponding with the body hitherto pursued in the roof; in the upper part of this end a band of excellent ore has just been laid open. The most productive point, for some weeks past, has been the end San Miguel, where the band in the centre and roof became broader than usual, and those in the other parts of the end improved at the same time. A slight falling off has been observed to-day; the ore in the bands is not so compact. On the south-east side of the pit an end has been commenced, parallel to that of San Miguel, and the ores improve as the work advances. The same bands are being followed up in the two ends to the south-east and in the pit. In this last working the ores do not extend to the north-west side—consequently, the direction of the pit is between the dip and run of the lode. No work has been done in the end San Damian—preference being given to the more productive points: 24 pairs of barmen are employed by day, and an equal number by night. There is no variation in any of the points worked on joint-account by buscones that calls for particular notice on the present occasion. Besides the general poverty of the mine in this branch of its operations, there has been three close holidays this month—many work people absented themselves during the fair of San Juan, and others are keeping away on account of the levy of troops that is going on. Very little impression has been made on the water. It has only been lowered a few inches. The drainage is at present somewhat impeded by the imperative repairs of the timber about the mouth of the shaft.

THE MARIA MINING DISTRICT.—Mr. Symonds, of Truro, is preparing a companion map to that published some time since, of the mining district of Gwennap. The one he is now engaged in will take in all the mines in the neighbourhood of Wheal Maria, within eight miles in length, and four or five in breadth.

WHEAL TREMAYNE MINING COMPANY.

A meeting of adventurers was held on Tuesday, the 15th inst., at the offices of the company, George-yard, Lombard-street.

THOMAS FIELD, Esq., in the chair.

The accounts were produced, showing:—November cost, 1245*l.* 9s. 4d.; December, 1182*l.* 12s. 8d.—2428*l.* 2s.—By sale of copper ore, black tin, silver ore, and arsenic, 2418*l.* 11s. 6d.; West Wheal Providence water charge, 10*l.*; debts received, 3*l.* 1s. 10d.; carriage for tin, 9*l.* 14s. 6d. (less dues, 1-20th, 120*l.* 18s. 6d.)—2320*l.* 9s. 4d.—leaving balance of 107*l.* 12s. 8d.; add from last account, 283*l.* 9s. 2d.—leaves balance against the mine, 391*l.* 1s. 10d. The accounts having been received and allowed, it was resolved, that the shares be divided into 1·1024ths; and that certificates be prepared and delivered to the shareholders, to be signed by the purser and secretary.

The following report was read to the meeting:—

Wheal Tremayne Mine, Feb. 12.—The alteration of the pitwork has enabled us to resume our bottom levels. We find the alteration of the fore-mentioned work just as it should be. The side lift fixed is the exact size to take off the increase of water from the 40 fm. level. The lode in the 80 fm. level, west of the engine-shaft, is 9 in. wide, with a little copper ore in it; the lode in the 80 fm. level, east of said shaft, is split in three parts; the south part, 6 in wide, producing some grey copper ore. Looking at the levels above, we have several fathoms more to drive this level, to get into the orey ground. The lode in the 80 fm. level, east of flat-rod shaft, is 10 in. wide, producing some copper ore, opening fair tribute ground; we have set a pitch over this level for four men—tribute, 5s. in 20s.; the lode in the 80 fm. level, west of said shaft, is 6 in. wide, with some ore in it; we have driven through a good lode in this level, in the back of which we have set a pitch for four men—tribute, 4s. 6d. in 20s. Alexander's shaft is sunk through to the 70 fm. level. The lode in the 70 fm. level, east of said shaft, is small and poor at present, and we may expect such lode for several fathoms driving more, looking at the levels above. In the 60 fm. level, east of Alexander's shaft, on Wallis's lode, after driving through the poor piece of ground before-mentioned, which the 70 fm. level is now in, we went through a long piece of orey ground, about 40 fms. in length; in this level we have intersected a large cross-course, and driven about 3 fms. to the east of it; the lode in this level is 15 in. wide, producing rich work for tin, and stones of copper ore, a very promising looking lode. We have not seen the lode to the east of the said cross-course, in the levels above—so we may call the back of the level in whole to the surface. The lode in the 53 fm. level, west of Leed's shaft, is 10 in. wide, producing some tin, opening tribute ground; the lode in the 53 fm. level, west of Pollard's shaft, on the engine lode, is 6 in. wide, poor—there is a rich branch of tin near the lode; finding the branches rich in this level, we form a high opinion of the ground before us. We have about 20 fms. more to drive this level to get under the new shaft—the said shaft is to the east end of our tin ground, in the 40 fm. level. The lode in the 40 fm. level, west of the new shaft, producing some tin; the lode is disordered, being near a flookan; in the back of this level we have four pitches working, at an average tribute of 4s. 6d. in 20s.—we have 18 men working in these four pitches. The branches about Allen's shaft are much the same as when reported last. We have set three tin pitches in the back of the north adit, west of Carloose, two at 7s. in 20s.; the other 9s., and expect to set more soon—this is a very promising part of the mine. In the 30 fm. level, west of Thomas's shaft, driving towards Wheal Margaret, we have discovered a large lode, with a great quantity of water coming from it. The lode and country is so soft and quick to run, that we have not proved it, to see what it is worth, knowing the nature of the lode to be generally productive, when the lode is soft and the country about it; the more timber used, the more ore, so we think the kind of lode discovered is a good indication for ore. About 20 fms. to the west of this level, we have a shaft sinking below the adit level about 2 fms., lode in it 4 ft. wide, composed of gossan and a quantity of iron—a very promising lode indeed. The winter season makes very much against this mine in the water charges, and returning the tin. I think the stock of tin in the mine has increased 5 tons since the last calculation made; we are preparing more materials for dressing, against the favourable season of the year, to return all tin possible. We think the last copper ore sampling would have been from 50 to 60 tons more, if the floods had not come in and inundated Wheal Margaret and our 70 and 80 fm. levels.

TINCROFT MINING COMPANY.

In our last week's Journal, we reported the proceedings at the meeting of this company, giving the reports of the directors and Capt. Paull, the agent, and now append that of Capt. Puckey, which we were compelled to defer for want of space:—

St. Blazey, Jan. 12.—Agreeably to your request, I have carefully inspected the Tincroft Mine, and herewith beg to hand you my report. First, the south part of the mine:—The late workings in that part, called the south part, have principally been on Highburrow lode—a tin lode underlaying south, on which a shaft is sunk to the 150 fm. level, below the adit, where the lode is large and tin disseminated throughout; yet, from its being so exceedingly hard, I consider, from the very low price of tin, it will not at this place pay for being wrought on, the price of tin being now only about 42*l.* per ton, whereas, a short time since, it was 52*l.*, a difference of 10*l.* per ton, which is probably about the sum sufficient to pay the cost of returning charges—such falling off being nearly one-fifth, without any set off, in labour, or reduction in the price of materials; consequently that part of the mine will not pay for working, notwithstanding it gives employ to so many at this critical season of the year: when I say so many, I mean that, in returning the tin for the tutwork, the men employed of late have been but very few—only 34 on this very large lode and extensive workings, and out of the 34 there are 14 actually stopping, so that only 20 may be said to be exploring ground, whereas there are 60 men working on tribute. The most inviting part on this lode for tin is now below the 110 fm. level, near the boundary with Carn Brae; indeed, above this place it is said that all of the levels, as high up as the 70, are within 2 ft. of the boundary; but above that level there appears to be a high piece of whole ground unwrought even to the surface, but which cannot be well worked without being ventilated, which, no doubt, Lady Basset, if asked, would consent to a communication being made through the reserved rib at Carn Brae, it being for the good of the public. The only ends driving are the 120 east by six men, where, in the course of a week, they will hole to a winze sinking from the 110, and from the winze there are not above 7 fms. to the boundary; I question, therefore, after holing the winze, whether it would not be more profitable to do away with all the tutwork there, and set the ground to the west of the winze (now stoping), as well as the east of the winze to the boundary on tribute, and employ some or all of the tutwork men in other parts of the mine—such as the 140, which is very far back; eight men should be put in that end to relieve in place at six hours' course. In the 140 end, at present, there are six men; and as there is no 130 fm. level, I would advise, that as the 140 approaches the richer and softer ground, a winze be sunk in one of the tin branches before (if the water will allow it) the 140 end, against that end comes forth, and from that winze drive a middle level east. I think that, on the whole, it will be better than sinking Martin's east shaft, more particularly if a plan be carried out, that I shall hereafter suggest. There are two men also only employed in driving the 90 end, on Chapple's lode, where the lode is very kindly, and producing some very good grey ore; and as that lode has been pretty productive for the little piece that has been opened on it, and as the 90 is several fathoms before the 100 end, I would recommend some of the men before alluded to being put in that end—say four: and if that lode should further improve, an increase may be required. I shall recur to this part again in summing up my report. Tincroft lode, or lodes:—On this part of the mine the engine-shaft is sunk to the 100 fm. level, and most of the levels driven to within a short distance of the boundary westward. The ends in course of driving are but few. The lodes westward chiefly produced copper, but eastward its character is changed into tin. The lode in the upper levels appears to have been very productive, but there has been a gradual falling off downward; it appears to me, that in several of the levels where it was productive, the lode often divided, and many times came together again, which, with the cross-courses, no doubt produced the ore; but downward, the lodes appear to be diverged one from the other, which may have caused the failure. There are at present 20 men employed on tutwork, four in each end of the 100, where each end is approaching cross-courses, and where the lode is poor but not unkindly—these should be continued. The 90 west is driving on the north lode by six men, which is very poor; this I would recommend being suspended, and four put to drive south, to cut the south lode to the west of the cross-course. There have been four men driving south in the 80 to cut the south lode, which having been cut, and there being a pare of tributers working on the same lode a little to the west of it, that end, I believe, is intended to be suspended; there are two also driving the 80 end east, where the lode is kindly for tin. If the bargain before-mentioned be stopped, it will bring the tutwork men on that part back to 16 only, while I believe there are upwards of 100 tributers; consequently, if the ends were orey, it would be impossible in that sort of ground for the number of tutwork men to open ground to keep so many tributers at work; therefore, unless something be discovered soon in that part of the mine, the returns will decrease. I would advise the shaft being sunk 10 fms. deeper immediately, as there is a great piece of unexplored ground to the east on that lode, where the lodes are together again. I would also advise the 60, which is the furthermost end east, and in which there is a strong tin lode, being driven at least 30 fms. farther. This lode, or lodes, underlay pretty fast northward; and as part of Palmer's underlays south, it should be borne in mind that it is very probable that both lodes will act as a syphon—and that by stopping one, the other will most likely have the water to draw. Palmer's:—This part of the mine, at present, is the kindliest for copper. The engine-shaft is sinking under the 80 fm. level; the lode about the shaft is at present poor, although large and kindly. The shaft being on, or very near—in fact, too near—the east boundary, there are no ends to report on but westward; when I say, too near the east boundary, I mean that the mine could be worked to a better advantage, and with more force, if they had the advantage both ways. The ends driving are the 80, 70, 60, and 48—the two latter are at present poor, and near the boundary. There are two winzes sinking under the 70, and a stope in the back; in this part the tutwork is brisk—upwards of 40 men I believe working, and about 26 tributers. Stainsby's shaft:—The surface water prevents at present its sinking, and nothing will probably be done until the adit which is driving towards it is holed, which will require from three to four months; after which the shaft may be probably sunk, but ores cannot be produced until late in the summer. From looking at the lode at the East Wheal Crofty side, something pretty good may be anticipated. Wheal Providence:—I examined the lode in the 12 fm. level; but from the infancy of the mine, I consider it rather premature to pass an opinion, or to say what the produce may be; and, looking at the expense of the engine, labour, &c., required to try that mine, and the probability of there being intermediate lodes between the 58 cross-cut, east of Martin's east shaft, and the Druid lode, I should have advised driving that cross-cut instead of putting up an engine, and I shall very much regret if that cross cut should not be driven. In that cross-cut there are two or three lodes cut, the gossan one of which I would recommend being driven on for at least 10 fms. each way. The adit put into Wheal Providence is of great service, it having taken up the greatest part of the surface water. In looking at the general prospects of the mine, with the very low price of tin and copper, I consider there is but little chance (without a discovery, and should we lose the present protecting duty, it will be still worse) of a dividend. It is a sure and certain thing, that if the tutwork stop the mine must soon after stop, and many mines are ruined for want of a proper outlay, and proper prosecution of tutwork. In recurring to the Highburrow lode, and that part of the mine as I before promised, and on referring to a section of Dunkin's lode, which is said to have been the best lode in the sett, and to have produced the best ore of any lode in the mine, I consider that the lode in connection with the Highburrow lode warrants an increased outlay of capital to try Dunkin's lode, at Blight's shaft, below the present bottom and 80 fm. level; that that shaft should be sunk by the aid of a flat-rod from Highburrow engine; and that, as Dunkin's lode is nearly perpendicular, the shaft will be in a good situation for Highburrow lode; that the 150, and below the Highburrow lode may be intersected by a cross-cut on the same cross-course as in the 58, and the great expense in sinking Highburrow shaft, and driving eastward for the first 40 fms. saved. The machinery throughout the mine appears in pretty good order. With respect to the mode of dressing and separating the ores, I have no improvement to suggest. The books appear to be kept on very nearly the same principle as ours at Fowey Consols; although, in the way of charging, one or two improvements may be made. I think that no tutwork men, except sumpmen, should have but 20*s.* subsist, and that no ground should be charged to make up a pay, but that every month should take its own charges only; and I also think that no tributer should pay his own pare, but that all dressing costs should be taken down every day, and be paid at the counting-house, and deducted from the tributer. I am favourable to selling pitches for one or two months—by selling for one month only, there is but little more than three-fourths the labour done, and the same expense going on in machinery and establishment. After receiving your instructions to inspect the

mine, I was requested to inspect for the lord of the soil; I have, therefore, sent him a copy of my report, with a suggestion, that if you carry out the work proposed at Blight's shaft, an encouragement should be given you, the particulars of which you will probably receive from him. Capt. Paull, and the agents, were very kind, and I believe kept back nothing from me.

MOLONG MINING COMPANY (NEW SOUTH WALES).

The half-yearly meeting of shareholders was held at the office of Messrs. Graham and Montefiore, Spring-street, Sydney, on Tuesday, the 6th July last, for receiving the first report of the board of directors. The following gentlemen were present:—Major Smythe, Messrs. E. C. Suttor, H. O. Darvall, F. H. Unwin, R. Ramsay, T. H. Hood, R. Graham, I. L. Montefiore, C. Frith, F. Castella, and T. C. Breillat.

I. L. MONTEFIORE, Esq., in the chair.

The CHAIRMAN briefly addressed the meeting on the object they had in view; it was to receive the report of the directors, which being their first, was necessarily confined almost to a brief history of the discovery and capability of the mine. He was happy, however, to state, that this history was of a character which justified sanguine expectations of the future success of the company, so long as its operations were conducted with prudence and energy. He believed the calculations made in the report had been well considered, and that the shareholders might rely with confidence on the statements in that document.

The report set forth, that in the year 1834 the grant of 1280 acres, in which the present shaft was situated, and which was then called Copper Hill, was known to contain copper ore. That in 1846, the attention of Mr. Hood having been attracted to the rich surface indication of the land, he obtained a lease of it for 50 years, from the Rev. H. Bobart, with the power to work a mine, on the condition of handing over to the proprietor 1-10th of the ore raised at the mouth of the shaft. An Act of Council had subsequently been passed, and forwarded to England for the Royal Assent, to enable the trustees of Mr. Bobart, in the case of his death, and that of his wife, within 50 years, to confirm the lease for 40 years. In February, 1847, a joint-stock company was formed, with a capital of 5000*l.*, in 500 shares of 10*l.* each—150 of such shares being allotted to Mr. Hood for his interest in the mine, and for the expense and trouble incurred by him in obtaining the Act of Council. Such shares to be considered as paid up in full, but available for dividends only so far as the other shares might be from time to time paid up. The remaining 350 shares having been taken up by private individuals, a board of directors was appointed, and steps taken for opening the mine. A deposit of 2*l.* per share had been paid, making an available fund of 700*l.*, of which 526*l.* only had been expended, leaving a balance of 187*l.* for the expenses of the current year. The expenditure included all the legal charges for the deeds of settlement, and other preliminary expenses incurred in forming the company. A blacksmith's forge, and other suitable buildings for the workmen, and instruments and blasting powder, had also been erected. The company had at present in its employ a grass-captain, an underground captain, and 10 men; but the promise which the increasing richness of the lodes afforded, would justify the directors in increasing the amount of labour, as fast as it could be procured at a reasonable rate. The next call of 2*l.* per share would be due on the 1st of August next, and a further call of the same amount would probably be made, after which it was hoped that no further demand would be made upon the shareholders. The reports from the captain of the mine were highly satisfactory: two very rich lodes of copper ore having been already opened within a few feet from the surface, and both full of native copper. The report then entered into a comparative statement of the expected produce of the mine as compared with those of other countries. The average cost of raising the ore from the English mines was from 3*l.* to 5*l.* 15s. per ton, the average value being 5*l.* 15s. 6d. The surface ore of the Kapunda Mines, in South Australia, contained 23 per cent. of copper, the average price being 24*l.* 8s. 6d. per ton at Swansea. The surface ore of the Burra Burra Mine, when the average yield of the ore was 19 per cent., was 14*l.* 10s.; it was more valuable now, the present return of produce being 45 to 59½ per cent., some having been sold at 31*l.* 10s. per ton. The assays of the produce of the Molong Mine had been from 16 to 45 per cent., and the average of its surface indication was about 30 per cent., and it might reasonably be expected that the lodes lately struck would not yield less than 40 per cent. The quantity of ore that might be raised could only be limited by the amount of labour employed; but it was calculated that at least 500 tons of picked ore could be sent down annually to Sydney, at a cost of not less than 5*l.* per ton. This would enable them to lay down their ores in England at a cost of little more than 6*l.* 10s. per ton, which was but little more than the cost of the carriage of the Adelaide ores. The cost of raising the ore at present was about 40s. per ton, and, by dressing and cleaning, it was hoped the expense of carriage might be diminished. The probability of smelting furnaces being erected in the colony was slightly alluded to, but the directors did not feel called on to give any opinion on the subject. The report concluded with the expression of the wish of the directors to furnish at all times the most complete and unreserved information to the shareholders; and in a report of their approval of the course pursued by the superintendent and mining captains employed by the company.

Major SMYTHE, in moving the first resolution, had much pleasure in congratulating the meeting on the very satisfactory character of the report. It must be matter of great satisfaction to them all to know, that not only was the company actually established, but also that they had commenced their operations—under such favourable auspices, and with so good a prospect of ultimate profit and success. He moved that the report be adopted, which was seconded by Mr. R. RAMSAY, and carried unanimously.

Mr. F. O. DARVALL, who had recently returned from the mine, exhibited some specimens of the surface ore, which he had casually picked up. They were very rich, the one being a rich blue carbonate, containing from 50 to 55 per cent. of copper; the other, a grey oxide, mixed with green carbonate, contained spots of native copper.

The subject of erecting smelting furnaces by the company underwent some discussion, but no decission was arrived at.

A general feeling appeared to prevail of confidence in the present management, and in the future success of the company.—*Sydney Shipping Gazette*, July 10.

ST. JOHN DEL REY MINING COMPANY.

SIR,—In the last Number of your valuable Journal, which is ever open to the exposure of abuses practised in public companies, with a view to their correction, there was an article relative to the present management of the St. John del Rey Company at Morro Velho, which is substantially correct, and can be proved so by documentary evidence, if required. By late arrivals from Brazil, more light has been thrown upon the state of affairs there. It appears, that the present superintendent promised, some seven months since, a premium of 100*l.* to the mine captain, if he succeeded in keeping the produce up to 15,000 oits. per month for three months consecutively. This produce was obtained (although in one of the months nearly two days' stamping was lost by the breakage of a water-course), and the 100*l.* paid. During these three months the mine may, or may not, have been fairly worked; but one thing is certain, that the mine captain promised the overseer of the spalling-floor a present of at least 12 milreis, at the expiration of three months, if he would make the spalling women break the ore very small. Thus, by overworking the people on the floors, the stamps would be fed with smaller pieces of stone, and crush a greater tonnage than usual.

The overseer to whom this offer was made, a Brazilian, named Isidoro, mentioned the subject to an English carpenter, now in Cornwall, who left Morro Velho in November last. The three months having expired, and the premium gained, the produce for November falls off to between 13,000 and 14,000 oits. The reduction officer reported during the month, that the stone sent out of the mine was of inferior quality; and when the produce was made up, on being called upon by the superintendent to give a reason for the falling off in the returns, he said the sole cause was the ore being poorer. The mine captain stated, that the ore was *not* inferior to that of the three preceding months, and the superintendent removed the reduction officer. Mr. James Smyth, feeling that his integrity is doubted, resigns his situation in the company's employ. Thus has fallen the last victim to an intrigue, of which the proprietors little doubt; and, so far as the past is concerned, is now of little consequence. But it does behove the proprietors to look a little into the management of the affairs of the company abroad, or they may have cause to repent their supineness when too late—for there is a scheme for self aggrandisement being carried out at Morro Velho, similar to one which succeeded some years since in one English Mining Company in Minas Geraes, and repeated more recently in another near Morro Velho, where it only succeeded far enough to partially disorganise the establishment, and to induce the superintendent to get rid of the party.

The mine of Morro Velho is a good mine, and it would be a thousand pities, that the indifference of proprietors should allow the produce and the mine to be played with. As for Mr. J. Smyth, he challenges the strictest and most rigorous examination into his administration of the reduction department during the 10 years he has had charge of it, because he knows that pure truth and integrity will ultimately triumph over unscrupulous and crafty intrigues, however clever may be the chief who leads the way.

In the meantime, the company's interests suffer; some of the best *hands* known, and tried men, have been dismissed, or, disgusted with the management, have refused to renew their engagements—thus putting the company to the expense of sending out others to replace them, besides incurring the risk of the new hands not turning out well. One of the two masons (Mallihphant) has just returned to England—his agreement having expired. He would have remained six or nine months, if the establishment were properly conducted. The other (Cornelius), who intended renewing his agreement, now refuses to do so; and the company, on his leaving, will be left without an English mason to direct the native labourers. Some of the best miners have left, and many more would leave, if they could. A carpenter and two smiths (Hancock, Harris, and Rose), went together to the superintendent to ask for their discharge, stating that, as affairs were carried on, they could not do justice to their employers. They were refused their request. One of these men served out a five years' engagement at Morro Velho, came to England for a few months, and returned under another agreement, about two years since. These men remain but discontented servants, never work well; and, unfortunately, discontent is universal amongst all classes of workmen, black or white, at Morro Velho.—A SHAREHOLDER: *City, Feb.* 24.

MINING IN THE DISTRICT OF ST. CLEER.

SIR,—At a time when much is being said as to the mining prospects of the St. Cleer district, it will not, perhaps, be unimportant to some of your readers to remark, that the Caradon Hills, long known for their worthlessness, have since been as deservedly famed for their riches—thousands of tons of rich copper ore having been abstracted from the numerous lodes passing through the country, giving tens of thousands of pounds to the fortunate adventurers. The success of these speculations gave an impetus to mining adventure in the district, and all available setts in the neighbourhood were immediately secured and extended; and far and near new works might be found progressing. But, alas! in St. Cleer a sad depression of this promising state of things has taken place; and many undertakings not proving successful at first, has induced parties to throw up their interest before the lodes are at all properly developed. Numerous lodes may intersect a country, and their discovery is no difficult matter; but a judgment is required to pass an opinion on their value, which must be based upon practical experience. Having made every necessary calculation of the expenses of properly working and laying open the several lodes, the agent should lay the same before the adventurers, whose care it ought to be to calculate whether they will be in a position to pay calls, in the event of an early discovery not being made. If this were done, so many mines would not be suspended. This would proceed from one of two causes—either the lodes holding out no promise, or the shareholders being short of capital, not calculating that some 30*l.* or 40*l.* per share would be required to give the mine a fair trial; and the consequence is the abandonment of the works, and the sale of the materials for half their value—while scarcely any one, conversant with mining, will say that either of the abandoned mines has been fairly proved. I have, however, yet hopes that a change for the better will take place; and many who have experienced some loss and disappointment, will yet have occasion to rejoice. To those who feel a disposition to embark capital in mining enterprise, we would say, "these mines will pay well, if properly followed up—sink your shafts to (say) 50 fms.; extend your levels at that depth, and many more paying mines will be seen in the district of St. Cleer."—J. SEYMOUR: *Caradon Wheal Hooper, Feb.* 15.

WHEAL ANDERTON MINE.

SIR,—We frequently have encouraging accounts respecting extraordinary pitches having been set, which I have no doubt is true enough; but the main point is, when are the adventurers to have a dividend? Call after call is made, and the shareholders quietly responding. This cannot continue much longer. *Feb.* 24. A SHAREHOLDER.

GREAT WHEAL FREDERICK.

SIR,—My attention having been invited to the prospectus of this mine, and being encouraged by the reports of the agents, and the circumstance of several of my friends having expressed their intention to invest in the purchase of shares, I was induced to make some inquiries, through a respectable mining agent in Cornwall, for my guidance, intending to embark, should the report I received be of a satisfactory nature. I now beg to avail myself of your columns, to furnish such information as I have acquired, for the benefit of those interested, or who may propose taking an interest in the undertaking. I will endeavour to be as concise as possible, and keep to the words of my informant. After some little trouble, I ascertained that this mine was situated in the parish of Linkinhorne, and, as I am informed, is a narrow slip of ground, on the estate of the late Thomas Robins, Esq., called Dunsley. It is north of the Caradon Hill, and south of the Phœnix Mines, forming a small wedge. There has been some shoding, the lode having been opened upon at the backs to a limited extent, and a shallow adit has been driven in for a few fathoms. No tin has yet been raised, and, consequently, not dressed—the only tin having been supplied by the adventurers. There is no machinery of any description upon the sett. The mine is now in a dormant state; but I find that a meeting was lately held at Tavistock, when the report was considered highly satisfactory. I should be glad to be informed, through your paper, if the information I have obtained is correct, or otherwise, because, I must say, I do not feel disposed to recommend my friends to embark in an abandoned mine, nor do I mean to do so myself. I think it is only right, when any party gets information, he should make it public; and it is pleasing to know, that a medium is rendered through your widely-circulated Journal.—NIHIL: *Hall of Commerce, Feb.* 22.

GREAT WHEAL FREDERICK MINE.

SIR,—My attention has been drawn to some correspondence, in your late Numbers, connected with this mine; and although in no way interested in the adventure, yet I cannot abstain from offering one or two passing observations on the scheme put forth, trusting to your courtesy to give insertion thereto, and feeling well assured that, in noticing the matter, I only echo your sentiments and those of your readers. In your paper of the 12th, a letter appeared from a Mr. Frederick S. Thomas, who expresses himself angrily at some remarks which appeared from your correspondent, "Vox." I have not the pleasure of knowing the one or other of these gentlemen, but I wish simply to deal with facts as put forward in the letter of Mr. Thomas, to which I shall more particularly refer, as it is solely the system I would attack, and not an individual case. It would seem, from the letter now before me, that Mr. Thomas acquired a sett of mining ground—no matter for what, if any, sum; and being "disposed," to use his own language, "to part with one-half the mine," he made an arrangement with a Mr. William Crossman, (of the firm of Crossman and Summers, I presume), that he (Mr. C.) should sell 1000 shares, at 2*l.* per share, which would realise 2000*l.*, upon the understanding that he (Mr. Thomas) and Mr. Crossman should divide the proceeds—the mine being thus sold at, and after the rate of 4096*l.*, while it was provided that no machinery should be erected, nor the mine put fully to work, until the 1000 shares should have been disposed of. Upon such being effected, the purchasers of the shares were to subscribe 10s. per share, or another 500*l.*, towards working the mine, so that the first sum named was as a bonus. It seems, however, that Mr. Crossman only sold 300 shares, on which he obtained his commission of 300*l.*—thus displaying the interest he felt for his friends—Mr. Thomas also receiving the other 300*l.* Things appear to have gone on pretty quiet for a time; but, as will sometimes happen in the best regulated families, it was found that "a screw was loose;" and accordingly Mr. F. S. Thomas convened a meeting of the adventurers at Tavistock, which, according to your correspondent, "Vox," was attended by himself alone—he representing chairman, secretary, mover, and seconder of the several resolutions, reporter for the public press, &c.; and this statement, so far from being denied by Mr. Thomas, is admitted. I will not follow his letter, which to me has more the appearance of an advertisement of *young mines*, than anything else, but will confine myself to this simple question—what opinion must any honest man have of the probity of parties who represent themselves as conversant with mining, putting before the public projects, whereby they are to charge after the rate of 4000*l.* for a property, a moiety of which they agree to give to the agent effecting the sale of the shares; or what confidence can the capitalist put in agents if that they are paid after this fashion? I was well pleased, Sir, to see your remarks some weeks past, and only wish you would keep this subject before the public. We look to you to expose and correct abuses, and I feel assured that, by pursuing such course, while you make one enemy, you will secure a host of friends.—D. L. W.: *South Wales, Feb.* 23.

THE "MODEL MINE"—WHEAL TRESCOLL.

SIR,—I at all times read your Journal with interest and pleasure, and am not only well pleased in acquiring information, but occasionally amused with your correspondents, who perpetrate some fun; and I must acknowledge that your last Number beats all. I can hardly suppose that you pay for these lucubrations, or flights of genius; for I am satisfied that such are not to be bought. They are, Sir, the inspirations of the intelligent and intellectual writer—while the profundity of thought and erudition displayed, are highly deserving the encouragement of the mining community, and do you much credit in placing before them compilations such as those to which I refer. The article which has thus led me to *commit* myself to paper, is at page 84, under the head of the "Model Mine;" and, as a "Model" report, I doubt not but that it will be stereotyped, and with great advantage used on future occasions. I will, however, Sir, with your permission, notice this report, if I intrude not too much on your space, which I do not contemplate, judging from that devoted to your talented correspondent—the civil engineer—who figures so conspicuously in your columns of Saturday last, aided by Capt. Spargo, but I will endeavour to be brief. First, then, Sir, we are told by the eminent gentleman, whose report I am about to quote, that it is five months since he first inspected the mine, in company with the captain of the late Tretoll Mine (now unfortunately defunct), when he examined "15 or 16 lodes and branches, which were cut by driving the adit level;" whereupon it was thought that, as others did not think the speculation worthy of further trial, the "joint opinion" of the gentlemen investigating the merits, and anticipating advantages to be derived from the "Model Mine," was—"That it might be tried to a greater depth by the power of a horse-engine, or *something to that effect*, before they laid out a great sum in erecting a steam-engine." We then find that, "since that time, they have opened on a lode (the *seventeenth!*) further south, of a splendid appearance, and well worthy of an outlay to erect a steam-engine at the first outset." Why, Sir, this almost beats your lamented friend, Millet Thomas—I say lamented, for I suppose him to have departed at least from that busy haunt of speculative beings who are to be found in the metropolis. We then approach the description of "*a strata*," commonly called *glouder*, "very congenial for Nn;" and I find that, in the newly-discovered south lode, they have found some "cockles," which I was not aware of being obtained so far inland, although I have gathered some on the beach at St. Ives. It appears there is another lode (the 18th) further south; and Mr. Richardson—who, I presume, is a chemical or chimerical engineer, as he attaches C.E. to his name—does not hesitate to deal in "scruples." Well, then, we have another lode (the 19th), about 30 fathoms north, turning our back on the former, which, with the learned disquisition of the writer, he gives us to understand being 3½ ft. from the north to the south wall, with an underlay of 2 ft., he considers to be about 2 ft. wide. Hear this, ye unpractised mining agents, and take lessons in mathematical and civil engineering figures. But to proceed. I find that the "lord broke large rocks of tin of a most excellent quality; but the water being so powerful, he was obliged to leave his *iron wedge*—or, to use his own terms, *arrowiens*—under a large stone of tin he was *endeavouring* to get out"—so that it is quite clear that the adventurers, in addition to the stone of tin, will also have the advantage of securing the *arrowiens*, which I presume is Greek, derived from the ancient Arabic, meaning in plain Cornish, a "gad." I next find that "*three* of the adventurers"—I believe five would number the whole—in the presence of "several agents" (number not specified), "and a number of miners, tinners, &c., from the neighbouring mines, *went down into the pit*, and broke with their own hands, most excellent stones of tin." It then further appears that, but for the severity of the weather, your correspondent believes they "would, to a *certain extent*, have fulfilled their task—namely: breaking the first ton of tin; however, it appears, the tin they broke was valued by competent judges to be worth about 5*l.*" It is only after having written thus much, that I have discovered the real merit of this report should be given to Capt. Spargo; but as the name of Mr. C. S. Richardson was attached to a sort of postscript, I gave him the credit of the report itself. I beg his pardon; but as he is a *particeps innocentis* to the elaborate report presented, he will, I feel assured, excuse me having given him credit for those abilities which I believe to be far more transcendent than those of the party whose name is subscribed.

I am, however, I fear, trespassing on your space; but I really cannot close this without noting your report—I presume, obtained from your "own correspondent"—of the "opening of Wheal Trescoll," or the "Model Mine." The description is really so rich, that it is a pity to damage the original by attempting an abstract; however to the effort. We are told, that the 10th inst. was the important "day appointed for commencing this mine, when the lords of the estate, the agents of Lady Eagre's estates, several gentlemen from Essex, Surrey, and London, mining agents and engineers, assembled"—the party, consisting, as far as your report goes, of the projector, his son, designated mining contractor—a new term, I presume, for that of tributer—*the* captain, and *the* three gentlemen adventurers from Essex, Surrey, and London. The party having arrived, "the signal was given for the men to heave away at the *pump*; and, in about a quarter of an hour, the lode became *distinctly visible*."—"Mr. C. S. Richardson (you will excuse me, I must quote your report) was the first to enter the pit; and, with pick in hand, said, gentlemen, the *lode* you have here in view is a *large branch* from the lode, marked "E" on the plans, and forms a part of the grand lode; I, hereby, now, with pick in hand, by this act and deed, name Wheal Trescoll, and may she prove to her adventurers good and true."

Really, Mr. Editor, I cannot but express my regret that your columns should be thus abused. I can well imagine your desire to please "one and all;" but there is the old fable of "the Man, the Boy, and his Ass;" and if the latter will write, I think the former should exercise some discretion, and not inflict his readers with so nonsensical a tirade. I will not attempt to follow the report of your "own correspondent," nor remark on the liberal offer of one of the streamers of 15*s.* for the first stones raised. To conclude this farce, the tinstuff raised was sold for 2*l.* 2*s.* 1*d.*, all in cash, and an ingot was cast, inscribed with the name of the mine, and forwarded to London. I had almost forgot to mention, that the purser paid the lord his dues on the tinstuff raised, which the adventurers liberally estimated at 5*l.*, and at which rate I have no doubt the lord would readily receive any further dues if they raise the tin. I observe, Sir, your remarks at the close, as to the interesting proceedings at a dinner, and "the Fine Old Mining Gentleman," discoursed by Mr. Richardson, with the promise that you would give us a second dose this week: pray, Sir, do not—the physic we have had to swallow is quite enough; and, having digested the blue pill, we do not require the black draught.—M.: *Redruth, Feb.* 29.

WHEAL TRESCOLL—THE "MODEL MINE."

[FROM A CORRESPONDENT.]

We are induced to return to the subject of the opening of this undertaking on the 10th inst., partially given in the *Mining Journal* of Saturday last, from the interest which naturally attaches to it, and from the success which Mr. Richardson, the projector, has certainly met with, even in the early stages of opening this mining property. After the morning's proceedings, the company met at the Lanivet Inn, and sat down to a substantial dinner—J. MATHEW, Esq., being called to the chair, and Mr. C. S. RICHARDSON to the vice-chair.

After the removal of the cloth, the health of the Queen was proposed, and duly responded to; when the CHAIRMAN, in giving the toast, "Success to Wheal Trescoll, the 'Model Mine,'" observed, that he felt great pleasure in the latter toast being drunk with so much enthusiasm. He had come from a distant county, with several of his friends, for the purpose of witnessing the opening of the resources of this rich mineral property; and, although he might be classed in the list of mining adventurers, he was not actuated solely by selfish motives, but, he hoped, for the general good.

The VICE-CHAIRMAN then proposed the health of the chairman, which was responded to with much applause.—The CHAIRMAN then gave the health of Mr. C. S. Richardson, and observed, that that gentleman had devoted much time, and travelled hundreds of miles, with the object of benefitting the mining interest. It was evident, emolument was not his sole object, as he could easily have realised 2000*l.* by the sale of the mine; instead of which, he was content to share with others in the success of the adventure.—The toast was received with much cheering.

The VICE-CHAIRMAN observed, that the encomium passed upon him was more than he deserved; however willing and anxious he might be to promote the mining interests of Cornwall, he had yet had time to develope the resources of their mine only to the extent they had witnessed that morning. In coming before the public as a "mining reformer," he must be allowed to say, there was a wide field for exertion. It was at the advice of several friends that he brought forward that adventure. An investigation of the trades and customs of Cornwall had led to a knowledge of many of the evils which accompany the present system; and, after three years' consideration, he had made up his mind to offer himself as a leader of an entirely new system—conscious that he could do no harm, but might do a great deal of good. Mr. R. went at great length into the abuses which exist, and his proposed remedies, which he said should have a fair trial at the "Model Mine," and he had no doubt of complete success. In the course of the evening the following song, which was written for the occasion, was sung:—

THE FINE OLD MINING GENTLEMAN.

I'll sing a modern song, although of ancient date,
Of a fine old mining gentleman, who had a fine estate;
And through it there ran many lodes, in riches very great,
On which he did employ the poor at a bountiful old rate—
Like a fine old mining gentleman,
One of the olden times.

His hall so old, as we are told, contained the richest store
Of specimens he had collected, of the richest ore;
And a jovial board the old man kept, of good old English fare;
At which his friends were welcome all, to come and take a *share*—
With the fine old mining gentleman, &c.

Now, to his honest working men his lands he freely let,
And never ask'd a *premium* in granting them a sett.
'Twas thus by liberality, he proved in sterling worth,
His native land, Old England, the richest land on earth—
Did the fine old mining gentleman, &c.

Before the use of steam was known, or a vacuum was found,
By groping on the backs of lodes, in wealth he did abound.
He wanted no *divining rod*—his plan was to costean—
And left his burrows o'er the lodes, to show where he had been—
Like a fine old mining gentleman, &c.

His fame at length spread far and wide, to many a foreign part—
Then Saxons, Danes, and Normans came to learn the mining art.
They called themselves *adventurers*, and overran the state,
And mines became a *speculation* ever from that date,
Of the fine old mining gentleman, &c.

And thus he lived a jolly life, devoid of worldly cares,
And riches got by selling ores—instead of selling *shares*.
He never paid for a *report*, or to *puffing* did resort,
But work'd his way, and made his mines themselves of *good report*—
Like a fine old mining gentleman, &c.

Now, Time we know is strong in flight, and years rolled swiftly by,
When Nature on him made a *call*—he must prepare to die.
His pick and gad he laid aside, and died in peace with every one,
And left posterity to go and do as he had done—
Like a fine old mining gentleman, &c.

Now, this is surely better far than all the modern rage
Of *speculative manias*, that grace the present age.
And a great deal more commendable, and best for great or small,
Then lay aside fictitious pride, and live for "one and all"—
Like a fine old mining gentleman, &c.

Then, in conclusion, let us hope our new Wheal Trescoll may
Write her bold adventurers good dividends to pay;
That honest enterprise may meet its just reward and praise,
And wealth increase with joy and peace—as in the ancient days
Of the fine old mining gentleman,
One of the olden times.

Many toasts and sentiments were afterwards drunk to with much enthusiasm, and great hilarity was kept up until shortly after midnight, when the company broke up, highly delighted with their entertainment and the future prospects of the adventure.

PREVENTION OF ACCIDENTS IN MINES.

TO THE EDITOR OF THE BIRMINGHAM JOURNAL.

SIR,—In the *Mining Journal* of the 29th January, there is an extract from a Belgian journal, giving an account of the successful application of an invention for the prevention of those lamentable accidents that sometimes occur in mining operations, from the breaking of the ropes or chains employed in raising the skips or boxes, and said to be a new invention by M. Jouquet. As far as the very brief description there given enables me to judge, it is precisely the same as an apparatus for the same purpose invented by myself, and particularly described in the *Birmingham Journal* of September 7, 1839, to which I refer you; a working model of which was also exhibited in the Free Grammar School, at the meeting of the British Association in this town. The effect described (in the extract referred to) upon the rope being cut, is as correct a description of the operation of my own plan as words can express. The box, with whatever weight it may be loaded, upon the rope giving way, becomes instantly fixed, at any situation in the shaft it may happen to occupy at the time: the gravity or tendency of the weight to fall being the power employed to sustain it from falling, may seem paradoxical, but such is the peculiarity of the arrangement, that if the gravitating force be 1 cwt., it exerts a sustaining power of 18 cwts. The apparatus being overhead, the persons below, either ascending or descending, are fully protected from the falling of the broken rope or chain. In thus obtruding myself upon your attention, allow me to say that I have no pecuniary purpose to serve, the invention being at the service of all who may choose to use it; a sense of justice to myself only, induces me thus to assert my prior claim to the merit of its invention. If M. Jouquet has reinvented my machine (which is quite possible), I would not wish in the slightest degree to diminish or deprive him of that high gratification which a benevolent mind experiences when its efforts have been in any degree successful in the preservation of human life; but his having done so does not annihilate the fact of my having published it more than eight years ago. Every attempt to diminish the dangers to which our miners are exposed, has always been a source of pleasure to me, and I am exceedingly glad to see attention given to the matter, although in another country; and hope the day is not far distant when the mining operatives of our own land, to whom we, as a nation, are so much indebted, shall have every means that science can furnish employed for their protection.—J. HARE: *Hamstead-road, Handsworth, Feb.* 17.

ACCIDENTS.

Wheal Reeth.—W. Lawry, aged 13, while employed in the 40 fm. level, and preparing a hole for blasting, went to fetch a can of powder, which exploded, and so injured him, that he lingered eight days and expired.

Workworth.—H. Corbitt was killed by the falling of roof in the Radcliffe Colliery.

Bilston.—L. Dando was killed by an explosion while working in New Field Colliery.

The late Fatal Explosion of Fire-damp in South Staffordshire.—The adjourned inquest on the bodies of the unfortunate men who were killed by the explosion in the Heathfield coal-pit on Wednesday fortnight, was resumed and concluded on Saturday. Two of the injured men have died since the last meeting of the jury—making in all 10. The evidence produced was to the same effect as that already before the public. The coroner having summed up, the jury agreed to the following verdict:—"That it has been through the negligence of John Meek, the doggy, that these men lost their lives; and they, therefore, *return a verdict of manslaughter against him.*"—Meek, who is a man from 35 to 40 years of age, was then committed to take his trial at the next Stafford assizes.

Colliery on Fire.—On Sunday week, a discovery was made that the nine-feet colliery at Burnden, Great Lever, Yorkshire, the property of the Earl of Bradford, was on fire, although the men left every thing apparently safe on Saturday night. It is supposed to have resulted from the ignition of a flue of an engine furnace in the works below. At first it was attempted to put it out by a small fire-engine lowered into the pit, and afterwards two others were brought into requisition, but proved of no avail; and it was at length decided to stop up the pit's mouth, and thus smother it for want of air. A slight explosion took place, but fortunately no lives and very little property was lost.

Briery Wood, near Unstone.—J. Silcock, of Newbold, was killed in consequence of some bind falling upon him.

Woodfield Colliery, Crook.—J. Spence was killed here by a mass of coal of a ton weight falling on him, he was taken out quite dead.

Dreadful Colliery Explosion—Four Lives Lost.—On Wednesday evening, one of those awful occurrences, a coal-pit explosion, took place at the colliery of Messrs. Swire and Lees, Dukinfield, known as the Victoria Pit, which has resulted in the death of four persons, and three others, who were severely injured, are not expected to survive. From the facts which we have been enabled, hurriedly, to obtain, it appears that the colliers were at work, about five o'clock, when some of them had got into some old workings, with a lighted candle, not taking the usual precaution of using a safety-lamp. The foul air, which appears to have been deeply impregnated, exploded, causing the instantaneous death of four men, and a number of others are seriously burnt, three of whom are not expected to live. Two of the young men killed are brothers; and their father, who is said to have had the naked candle in his hand which was the cause of the explosion, is also much burned, and but little hopes are entertained of his recovery. The pit where the accident happened is the deepest in the neighbourhood, and more lives are said to have been lost in it than in all the others put together. Great pains have been taken to prevent the men working with naked lights, but all the attempts hitherto made have

killed—the miners, apparently, choosing to run the risk of their lives rather than work with their Davy lamps.—*Liverpool Mercury.*

Swan Village, West Bromwich.—J. Cartwright, aged 13, fell into a pit belonging to Mr. Hartland, and was killed.

Tividale, Rowley Regis.—H. Westwood was killed by a quantity of coal falling on him.

Bunn's Lane Colliery, Dudley.—John Wilkinson was killed here by a fall of coal.

Old Park Colliery, Dudley.—L. Barratt was standing on a plank placed across the shaft, doing some repairs, when the board broke, and he fell into the sump and was drowned.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

ASHBURTON UNITED MINES.—A very promising copper lode has been cut.

COMBLAWN.—They have got through the elvan course in the engine-shaft, and have the same congenial strata—a beautiful killas, with branches of soft spar, prian, iron pyrites, lead, &c.

DEVON AND COURTENAY CONSOLS.—I have still a good opinion of this mine; but have not heard of any lode being taken down since the meeting; the south lode driving east in the 40 fm. level, then would produce 3 tons of copper ore per fm., worth 5*l.* per ton, and west from 1 to 2 tons, worth about 8*l.* per fm. The great gossan lode was intersected close to a slide, which disordered it; I have no doubt but it will be found to improve in driving east a few fathoms; there is yet many fathoms to drive west, to get under the great gossan, seen near the surface; but, when reached by the 40 fm. level, I have every reason to believe there will be a large deposit of copper ore met with.

GREAT HEWAS CONSOLS.—The general operations of the mine have progressed favourably during the past month; the water-wheel, with all its appendages, are on the mine, the pit has been dug, and the masons at work; it is expected to be completed by the 8th of January. Another wheel-pit has also been dug for a 21-feet wheel, to lift 50 stamp-heads. A burning-house is in course of erection, calculated to calcine 25 ewts. of tin at a time; 10 heads of stamps are in operation, and the pitches at Stanley's are improved. In the 36 fm. level the pitches are looking very flattering. In cross-cutting from Northey's we intersected the great Hewas lode, which is of great promise, but not rich; we do not expect a *rich* lode until our level is extended 8 or 10 fms. further east. Owing to the late heavy rains, and the bursting forth of shallow springs, our iron-works are suspended for the present, as is also a pitch or two in the bottom adit.

PLYMOUTH WHEAL YEOLAND.—The ends east and west in the 12 fm. level are as good as the lode ever has been, and that is good enough to satisfy any reasonable man. The engine works beautifully, and they are raising daily large quantities of the richest ore; the ends are looking remarkably well.

TAVY CONSOLS.—A great improvement has taken place here since I last wrote, especially in the western end; the lode in the bottom continues as good as ever.—Another letter, dated Feb. 23, says:—"I have to inform you, that there is still greater improvements in Tavy Consols Mine. The lode in the west end is 4 ft. wide, and 6 ft. high, solid ore—a finer end cannot be seen; it will produce from 14 to 15 tons per fm."

WHEAL ANDERTON.—There is a great improvement in the 70 fathom level west; they have a fine course of tin, and a very good lode east of the slide in the same level.

WHEAL FORTESCUE.—The engine-shaft is sinking under the 20 fm. level (this is 20 fms. under the adit); I think it is intended to be sunk to a 35 fm. level, before we drive again to cut the lode.

WHEAL FRANCO.—The lode in the eastern side of the cross-course has been cut into 3½ ft., and is rich, indeed quite a superior quality to anything before seen in the mine, except in the winze 7 fms. under the 32 fm. level, and 15 fms. ahead of the point in the 47, at which the lode has been cut east of the cross-course.

WHIDDEN TIN MINES.—We learn, from our Ashburton correspondent, that that usually quiet town has been in a state of excitement, in consequence of the recent valuable discovery of tin at the Whidden Mines on Saturday last. Henry Caunter, Esq., one of the landholders of this extensive and very promising mine, and upon whose land the tin was discovered, gave an entertainment to the miners employed at the mine, at Bracewell's London Inn. The spirited manner in which these mines are worked, has proved a material advantage to the best interests of the town; and will be the means, no doubt, of other new and large mining operations being carried on in the neighbourhood, particularly as several eminent Cornish agents have given a very favourable opinion of the large amount of metals on the eastern range of the Dartmoor Hills. The inhabitants are very sanguine that the mineral wealth of their neighbourhood may establish among them a good trade, of which they have lately stood in so much need.

SOUTH AUSTRALIA.

We have, of late, repeatedly referred to the mineral riches of South Australia, and have it in our power, unexpectedly, to give very minute details on that subject. We have seen, and examined, 40 specimens of ores (39 of copper, and 1 of lead), which have just been received by the *Hope*, from that singular country. Of these, 20 specimens are from the lands of the South Australian Company, in the Mount Barker District, and 20 from the other mines in South Australia. They include rich specimens of sulphuret, carbonate, oxide, and malachite. The following is the classification of the whole, in respect to produce, as estimated in the colony—which, in passing, we remark, seems to us to be 5 to 10 per cent. too high. Of the ores from the lands of the South Australian Company—

1	is a mere surface indication, estimated at 18 per cent. produce.				
8	specimens are from	31	to 40	per cent.	produce.
6	"	"	41 to 50	"	"
2	"	"	51 to 60	"	"
1	specimen is estimated at		67	"	"
1	"	"	74	"	"
1	"	"	86	"	"
— 20.					

Of the other 20 specimens, 4 are from the Burra Burra Mine, and the remainder from the Kapunda, Princess Royal, Paringa, Montacute, &c., of various produce, from 16 per cent. to 76 per cent.

Every one familiar with mining operations, knows, that it is of far greater importance to obtain decided indications of permanency in the lodes than of richness—and many of these specimens furnish encouraging evidence of abundance of mineral.

We understand the mining operations of the South Australian Company are, in the mean time, directed by Capt. Rodda. The principal shaft at Kanmantoo has been sunk to the depth of about 22 fms.; the lode continued there very good in quality, and about 11 feet wide. By the last accounts, they were driving levels north and south on the course of the lode. The ore had become rather highly charged with sulphur—so that the colonial manager, under Capt. Rodda's direction, has tried the effect of simply roasting the ore on a pile of wood; and has, by that means, raised the per centage of metal from 20 per cent. to 30 per cent., or upwards.

Measures are projected in the colony to establish regular smelting operations; and although it is probable, that that object cannot be effected on an adequate scale, without the aid of English capital, we believe that the period is not far distant when that desirable object will be attained, and that the Indian markets will receive their supplies of copper chiefly from South Australia.

The Colonial Land and Emigration Commissioners continue to show a most laudable anxiety to send the colonists of South Australia an adequate supply of labour. One vessel a month, with free emigrants, sails regularly—so that, during last year, 3000 persons of that description left England for that colony. A large proportion of these were miners from Devon and Cornwall.

In corroboration of the favourable accounts received from settlers there, no proof can be more satisfactory than the fact, that the colonists of South Australia lately remitted 1000*l.* towards relieving the destitution in Ireland and Scotland; and gave the committee in this country reason to expect a remittance in wheat to the same extent—*the subscriptions having exceeded* 2000*l.*—The total number of the population at that time was estimated at about 30,000; of these nearly one-half are females—a very large proportion are children, under 14 years of age—while about two-thirds of the whole are located in the country districts.

All honour to the generous souls who so promptly and liberally contributed to alleviate the sufferings of the poor Irish and Scotch—and who thus proved that 16,000 miles distance had not deadened their sympathies with their suffering countrymen, who, though "out of sight," were NOT "out of mind."

The accounts from Alten received this week are very satisfactory, and state that the prospects at the Raipas Mine have undergone a very important and favourable change; and that, wherever Labouchere's lode has been intersected at a deeper level, a gradual and steady improvement has been observed.

LEASING OF MINES IN IRELAND.—In the House of Commons, on Thursday last, Sir W. Somerville moved for leave to bring in a bill for amending the law for the leasing of mines in Ireland. By the existing law, persons were bound not to grant leases of mines in that country for a longer period than 31 years, and were also bound to receive part of the rent in kind. This had not been found to encourage those who wished to embark in mining operations, and it was proposed to extend the period to 41 years, at a yearly rent.—After a few words from Mr. Wyld, leave was given.

THE COMPANY OF COPPER MINERS OF ENGLAND.—We hear that, although it is the determination of this company to stop the extensive works at Cwmavon, it is still their intention to carry on the Forest Copper-Works in the neighbourhood of Swansea.—*Cambrian.*

TAVY CONSOLS.—We have received several letters respecting this mine, but being unauthenticated, we cannot give them insertion. Under the circumstances of the postponement of the sampling, and other matters, we think the agents should forward a special report, for the information of the shareholders

THE CONWAY SUSPENSION TUBE.—The floating of this stupendous fabric to the spot from whence it is to be raised to its destination, and which was expected to take place on Monday last, is postponed, in consequence of the works not being in a sufficiently forward state. Capt. Claxton, who, with the officers of the *Great Britain*, is engaged to assist Mr. Stephenson in its removal, has reported, that it cannot be accomplished during the present spring tides. In the mean time, every effort will be made to prepare for the movement, and about 40 sailors from the Sailor's Home, Liverpool, are levelling the ground under the Pontoons, and making every necessary preparation, and the result has become a question of most anxious consideration, both locally and nationally. We have just been informed, that from the 3d to the 6th March, is the time now expected; on the latter day, the tide will be 2 ft. higher than it was on Monday last, and will, consequently, be so much more favourable.

IMPORTANT DECISION TO STEAM-BOAT BUILDERS—"CRICKET" STEAM-BOAT EXPLOSION.—It is known that Messrs. Ditchburne and Co., shipbuilders, of Blackwall, built the three double-headed steam-boats, known as the *Ant*, *Bee*, and *Cricket*, which ply between Hungerford-market and London-bridge: it appears there was a sum of 350*l.* due to them on the contract amount for building the *Cricket*, which was withheld by the proprietors, on the extraordinary grounds, that the said boat did not draw sufficient water* to do justice to the engine; and, in consequence, it was alleged, that the engine was unmanageable, and, after some two or three months' working, was taken out of the boat. It was shown, in evidence, that the stipulated draught of water was not to exceed 2 ft. 6 in., and that she drew 2 ft. 7 in., or thereabouts. The matter has been some months pending, having been referred to the very protracted proceeding of a legal arbitration, and the award just made is, "that the plaintiffs—Octavius Henry Smith, William Henry Foreman, and William Cory the younger, proprietors of the steam-boat *Cricket*—do pay the defendants the full amount of their claim, 350*l.*, with all costs." The engine, as our readers will recollect, was a combination of Hornblower's and Wolff's high and low-pressure steam, worked on Penn's oscillating principle, for which one of the proprietors and managing director, Mr. O. H. Smith, distiller, Thames Bank, had obtained a patent.—[* Every one acquainted with steam-boat navigation on the Thames is aware that the boats plying above bridge cannot draw too little water.]

LOWE'S PATENT SCREW PROPELLER.—In the Court of Queen's Bench, on Thursday, the case Lowe *v.* Penn came on for hearing before Lord Chief Justice Denman and a special jury. It was an action to recover compensation, in damages, for the infringement of a patent granted to the plaintiff, on the 24th of March, 1838, for certain improvements in propelling vessels. Damages were laid at 1000*l.* The Attorney-General, in opening the case, said, the action was brought more to try the validity of the patent than with a view to damages. There were a great number of witnesses, and the evidence very voluminous; among the engineers examined were Messrs. Hunt, Miller, Beale, and Bethel, for; and Elijah Galloway, Cubitt, Cottam, Lloyd, Braithwaite, and Field, against. The jury retired for an hour, and, on their return, brought in a verdict for the plaintiff—damages, 40s.; thereby establishing his right to the patent. His Lordship observed, that there could be now no doubt but that the plaintiff was indisputably in possession of the patent right.

SOUTHAMPTON DOCK COMPANY.—The half-yearly meeting of this company was held at the offices, Bishopsgate-street, on Thursday last,—Colonel BARLOW in the chair. The report was satisfactory as to the gradual progress of the undertaking; the total receipts for the year 1847 exceeding, by 4130*l.* 13s. 2d., the receipts for the year 1846. The balance of profit enabled the directors to declare a dividend of 1*l.* per cent. for the half-year (10s. per share), being at the rate of 2*l.* per cent. per annum. The establishment, by the Peninsular and Oriental Company, of a regular monthly communication with the Italian ports, and the doubling of the line of communication with Egypt, the Levant, and the Black Sea, were looked upon as additional sources of business to this company. The second dry dock had been completed. Of the 70,000*l.* guaranteed, 6 per cent. stock, only 50,000*l.* had been issued, and was readily taken by the proprietors. The tonnage for the year 1847 amounted to 245,593*l.* The balance in favour of the company was 3136*l.* 9s. 9d. After a brief discussion, the report was adopted, and the meeting adjourned.

EXTRAORDINARY DISPATCH BY RAILWAY.—Mr. Wm. H. Smith, of the Strand, having arranged for an express train for Edinburgh, left London at 5 h. 35 m., on Saturday morning, arrived at Derby at 8 o'clock, with the early morning papers, containing Lord John Russell's speech on the "Budget," and duly left the necessary quantities at each town as it proceeded, and reached Edinburgh at 4 minutes before 3 o'clock in the afternoon, performing the journey from Rugby to Edinburgh, including all stoppages, at the rate of 57 miles per hour; and from London—the entire distance 431 miles—in 9 h. and 20 min.—which fact, so far as travelled over the Midland Company's lines, was corroborated by Mr. Hudson, at the meeting of that company on Saturday last, and gave considerable satisfaction to the shareholders, as evidence of the excellent condition of their railway and engines. It is an extraordinary fact, that on this occasion the express beat the electric telegraph—for many of the local papers, having made arrangements to receive the heads of the speech by that instrument, the company, attempting to give it too greatly in detail, caused considerable delay; and the result was, that before the speech was written off, the London papers arrived. The mixed trains will, probably, average their journeys in about 12 hours.

GREAT LUXEMBOURG RAILWAY.—The discussion on the bill for sanctioning, under certain conditions, the repayment of a portion of the caution money of the above company, was commenced on Friday the 18th, in the Chamber of Representatives, Brussels, and adjourned till the following day. Some opposition, even of an unreasonable nature, was to be expected, and chiefly on the ground (although not the ostensible one) that the bill was a Government measure, and that the Cabinet had warmly taken it up. The Minister of Public Works, in a lucid and comprehensive speech, stated that five out of the six sections of the Chamber had approved of the bill, and that the caution money could not be considered in any way as belonging to the state. The company had fulfilled its engagement to employ a certain number of men during the inclement season. The sum asked for belonged to the company, and, if advanced, would be employed in works of public utility for the country. No risk would be incurred by making the advance required. Late in the afternoon, the debates were brought to a close, by a vote in favour of the adoption of the project of law. The bill was carried by a majority of 44 to 19.

HAS THE STOPPAGE OF RAILWAY WORKS RELIEVED THE COMMERCIAL PRESSURE?—It was long enough asserted on one side, and contested on the other, that railway operations interfered with the money market, abstracted capital from mercantile men, and caused the panic and the pressure. Railway works are now stopped to a great extent; and I ask the question—"Has the stoppage of railway works relieved the commercial pressure?" I believe the answer is—it has not. If so, railway works could not have caused the pressure, nor is it necessary to take repressive measures against railways.—HYDE CLARKE.—*Railway Record.*

RAILWAY RATING.—The parish of Paddington, in 1844 and 1845, doubled the assessment of the Great Western Company—making them 8000*l.* The company very properly resisted this, and took several objections to the defective nature of the rates; but, ultimately, gave up these objections, and went to a reference of the amount. This reference lasted 12 months; when they were defeated, as the arbitrators have fixed the amount at a very little less than the 8000*l.*, and the Great Western pay the costs of the contest.—*Ibid.*

THE SEWING MACHINE.

In our last Number, we gave a brief description of an extraordinary machine for sewing; and which would be likely, if brought into operation, entirely to supersede, in the course of a few years, all hand labour in that operation. The inventor, not being yet perfectly secure in his patent, cannot publish a description of the machinery; but has favoured us with some further details. Monsieur Thimonnier, the inventor, is an humble artizan, of undoubted mechanical genius, who, for more than thirty years, has been labouring with untiring perseverance to discover the principle of his sewing machine, in which he only succeeded a few years ago. Monsieur Magnin is at the head of the bar of Villefranche (Rhone); and being a gentleman of property endowed with a mechanical taste, he has assisted his partner to adapt his principle to working operation, so that bringing this invention into practice has been effected by this latter gentleman. The patent was only granted a few days ago; and the machine was introduced by Mr. Schmidt to the Royal Institution immediately afterwards, so that the members of this society were the first who saw it in this country. The machine itself is fixed on a table, and is not larger than a very small work-box; it is worked by a treadle, and every movement of the foot produces a corresponding action in the needle, so that 300 stitches can easily be made in a minute. The hands are merely used to guide the materials being sewn, and, by turning a screw, the size of the stitch is instantly varied. Monsieur Magnin wore, at the soirée, a complete suit worked by the machine—viz.: coat, waistcoat, trowsers, paletot, shirt, with embroidered front, and collar. The machine will sew, stitch, and embroider, and form cords and plaits, and the fair guests of the Royal Institution carried off the specimens as fast as they could be made. The stitch is by no means a new one—it is the tambour or crotchet stitch; the whole value of the invention consists in making machinery do what was hitherto done by the fingers, and thus resolving a problem, supposed impracticable. Valuable as these machines are in their results, yet there is a great point which must not be overlooked—viz.: the inventors state that, when they have organised their machinery, they will be enabled to manufacture the machines at from 2*l.* to 5*l.* Several offers have been made in this country to purchase the patent, but the inventors would rather dispose of it to a company, so that the public generally may benefit by their invention. We feel assured that the scientific world may satisfy their curiosity by applying to Mr. Schmidt, who is now becoming so well known to the public from the valuable inventions he has introduced, at his office, 28, Sutton-street, Waterloo-bridge.

On reading this description, many will immediately conclude that, on the introduction of such a machine, utter ruin must fall upon all obtaining a livelihood by this handiwork; but, if we take any parallel case, we shall find the contrary effect to have prevailed. On the invention of Arkwright, superseding hand spinning, being brought out, a vast increase in the demand for such articles immediately took place; and, if triumphant, it is most probable that, like every other invention for economising labour, such as weaving, knitting, and printing machines, it will assist in giving rise to new prodigies, employ additional hands, by creating a tenfold increased demand, render an immense benefit to society, by enabling the poor to wear strong clothing, by its being obtainable at a reasonable price, and economise to the labouring classes a large portion of their working hours.

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning, Eleven o'clock.

Bank Stock, 9 per Cent., 198 9½	Belgian Bonds, 4½ per Cent., 90½
3 per Cent. Reduced Ann., 85½ 8	Dutch, 2½ per Cent., 53¾
3 per Cent. Consols Ann., 88½ 7⅞	Brazilian, 5 per Cents., 84½ 3½
3 per Cent. Annuities, —	Chilian, 6 per Cents., —
3½ per Cent. Ann., 89½ 9	Mexican, 5 per Cents., 19
Long Annuities, 9 8½	Spanish, 5 per Cents., 20½
India Stock, 10½ per Cent., 244	Ditto 3 per Cents., 32½
3 per Cent. Consols for Acc., 88½ ⅞	Portuguese, 4 per Cents., 25
Exchequer Bills, 1000*l.* 3d., 30 pm.	Russian, 5 per Cents., 110¾

MINES.—The amount of actual business transacted during the week has been rather confined; still we find inquiries for shares, and offers made at prices which sellers are not generally inclined to accept. These offers are not confined to paying mines, but many others, whose prospects are represented as having improved, are getting into estimation.

The improvements made during the week in Devon Great Consols are of the highest importance. At Wheal Fanny the lode in the 25 fm. level west (which had fallen off for some time past), was, by advices of the 23d, represented to be worth 60*l.* per fm.; and we have since learned that they have a splendid lode there, worth considerably more than previously stated. The lode in Hitchen's shaft, at Wheal Josiah, was reported to have improved—90*l.* per fm.: it is now stated to be worth considerably more, and the lode generally was never seen better.

At Wheal Anderton the lode has improved in the 70 fm. level, where they have a fine course of tin. Tavy Consols and Wheal Williams are also reported in a much improved position. Great Wheal Michell continues to improve; they have a course of ore 2 ft. big, likely to become permanent. There has been a demand for South Wheal Francis, but sellers are scarce. Treviskey and Barrier, Levant, Tamar Consols, and South Wheal Basset shares, have also been in request.

Shares in the following mines have been done during the week—viz: Devon Great Consols, Treviskey and Barrier, Wheal Mary Ann, Wheal Trelawney, West Wheal Jewel, Tamar Consols, Treleighs, Trehane, Devon and Courtenay, Herodsfoot, Tavy Consols. Franco, Wheal Williams, South Trelawney, Condurrow, South Basset, and Marke Valley.

Lord John Russell, in the House of Commons, on yesterday week, stated it to be the intention of the Government to take off the duty on foreign copper ore. This intimation will, no doubt, be gratifying to many interested in the prosperity of the mining interest; whilst it will have a different effect on those who entertain an aversion to its abolition. A measure like the present may be argued *pro and con.* like the *currency question*, with great ability by those interested in the matter; and no positive, or correct, utility of its workings can be arrived at, until its operations have been fully and practically tested. The theories and arguments of its partizans are fully answered by Lord John Russell, on his introducing the subject before the House—viz.: "Although the duty is small, the effect has been injurious to the parties connected with that interest in this country. Smelting of copper ore has been performed in Sweden to a greater extent, and in other countries where it has never been done before—so that the smelting establishments in England have greatly suffered. I do not think that the owners of copper mines would sustain any loss by taking off this small tax—while it would remove obstacles to the smelting business, and give those engaged in it an opportunity of resuming their former prosperous course. The amount of the tax is only 41,000*l.*"

A deputation of gentlemen, connected with some of the mines of Cornwall, was appointed at a meeting, held at Truro in January, to co-operate with the Members of the county opposed to the removal of the duties; and to meet the expenses which a proceeding would necessarily incur, Mr. Treffry suggested, by circular sent to the adventurers of each mine, that a certain sum should be set apart from the sale of ores to effect the same. At the bi-monthly meeting of shareholders in Wheal Seton Mine, held last week, the subject of the circular referred to was brought before it, when a resolution, opposing the views of Mr. Treffry, was adopted, which will be found in the leader page. The fact of the proprietors of this highly-important mine declining co-operation with the Protectionists, speaks far more forcibly than all the arguments that have been advanced. We ardently desire to see the mining interest, in all its branches, progress, and take that standing among the other industrial interests of the country it merits; nor would we advocate the least measure which we consider would have a tendency to retard its advance.

But when we perceive gentlemen so deeply interested in the successful working of our home mines, whose fortunes and investments are sunk in the development of its resources, with the labouring poor dependent on the stability of these mines, we cannot conceive that men, possessed of vast practical experience, can be more blind than ourselves in this, to them all, important matter.

One argument used by the theoretical supporters of the restrictive duty is, that the immense quantity of *halvans* which lies on the surface of many of the foreign mines, which could not be imported before, on account of the duty, would now come in to the suspension of our home mines. We think it unnecessary to go into figures, after so much has been advanced upon this question; but we verily believe the cost of dressing, freight, price, &c., which it would realise at Swansea, will preclude the confirmation of any such fears. We find a vast falling off in the ticketting sales at Swansea; we find that smelting is being carried on in American ports, but we cannot learn that the talent, position, and other advantages possessed by British smelters, are to be equalled by their competitors.

In foreign shares several transactions have taken place during the week—viz.: Australian, Copiapo, Asturian, Bolanos, St. John del Rey, &c.

Despatches have been received during the week by the Alten, Imperial Brazilian, National Brazilian, St. John del Rey, United Mexican, Bolanos, and Real del Monte Mining Companies.

The Alten report is highly satisfactory. The Raipas Mine has undergone progressive and important improvements.

The Imperial Brazilian advices a remittance of 52 lbs. of gold, which has arrived at Falmouth—value, about 2300*l.* The report gives the total raising from 1st July to 28th Dec., inclusive, 153 lbs. 2 ozs. 13 dwts.,—and represents the leats, water-wheel, &c., rapidly approaching towards completion.

The St. John del Rey accounts shares a profit for the last month of upwards of 2000*l.*

By the Indian Mail, we learn, that a general dullness pervades the markets for British imports, with the exception of metals. The metal trade of Bombay and Calcutta continues in a favourable position, although with a slight decline in the latter market with respect to copper. We find that iron, generally speaking, is in great demand—whilst a scarcity for some particular sorts exists; consequently, an advance of price is maintained, and a general assortment of iron much required. Lead has also advanced. At Canton, rod and nail-iron is also in demand at higher quotations, with a very limited stock on hand. Other metals continue firm, although not much business doing.

RAILWAYS.—On Monday the market was excessively dull, probably from the dubious state of the funds. On Tuesday operations were much circumscribed—no improvement, and the market lifeless. On Thursday shares were exceedingly heavy, and but little business; but a slight rally took place yesterday—something more than an average amount of business was done; the market was, however, quiet, and there appeared little anxiety either to buy or sell.

HULL, THURSDAY.—The results of the meetings of the leading railway companies are such as to justify the fullest confidence in the financial position of these great undertakings. At more than one of them, the insinuation that dividends had been paid out of capital was distinctly repelled; and we have no doubt, that fairer and clearer statements were never exhibited. The market for shares does not improve—in fact, we never recollect a time when transactions were so limited. This, always bearing in mind the *chief* reason—the *calls*, is partly referable to the unsettled state of foreign politics, which creates an indisposition to enter into new engagements.

THE WEST INDIA MAIL.—The Royal Mail steam-ship, *Tay*, arrived at Southampton on Thursday morning, with despatches from Vera Cruz to Jan. 21; Havannah, Jan. 20; Honduras, Jan. 12; Jamaica, Jan. 21; Demerara, Jan. 18; Trinidad, Jan. 21; Barbadoes, Jan. 29; Grenada, Jan. 29; St. Thomas's, Feb. 1; and Bermuda, Feb. 9. The *Tay* brought 29 cabin passengers, and the following freight:—$ 23,304 on merchants' account, 1360 five-franc pieces, 117 ozs. of gold dust, British coin value 1430*l.*, 836 ozs. of silver bars, 20 guilders, 43 lbs. of plata bruta, 60 cases of cigars, 558 serons of cochineal, 29 turtles, 5 cases of pines, and 36 packages of sundries.

NEW PATENTS.

E. D. Lines, Chelsea, and S. L. Freemont, Love-lane, gentlemen, for improvements in the manufacture of colours, oils, and varnishes, and in the manufacture of charcoal, and also in treating vegetable substances for and in obtaining extractive matters therefrom.

W. Irving, Trigon-road, Kennington, engineer, for improved apparatus for cutting or carving ornamental forms in wood, stone, and other materials.

J. Nasmyth, and H. Gaskell, both of Manchester, engineers, for certain improvements in machinery or apparatus for forging, stamping, and cutting iron, and other substances.

E. Massey, Middleton-square, Middlesex, watch-maker, for improvements in legs and rounding apparatus.—*Mechanics' Magazine.*

LATEST CURRENT PRICES OF METALS.

LONDON, FEBRUARY 25, 1848.

	£ s. £ s. d.		£ s. £ s. d.
Iron—Bar a..Wales..ton	0 0—7 5 0	Copper—Ord. bottoms ..	0 0—0 11½
„ ..London ..	0 0—8 10 0	Yellow Metal Sheathing	0 0—0 0 8¾
Nail rods „	0 0—9 5 0	Tin—Com. blocks g..cwt.	0 0—4 2 0
Hoop(Staf.) „	0 0—10 10 0	„ bars	0 0—4 3 0
Sheet „ „	0 0—11 10 0	Refined	0 0—4 6 0
Bars „ „	9 10—10 0 0	Straits h	0 0—3 16 0
Welsh cold-blast foundry pig ..	4 0—4 10 0	Banca	0 0—4 4 0
		Tin-Plates—Ch., IC i, box	1 7—1 9 0
Scotch pig b, Clyde	2 11—2 12 6	„ IX ..	1 13—1 15 0
Rails, average	7 15—8 0 0	Coke, IC	1 4 6 1 5 0
Chairs	0 0—5 5 0	„ IX	1 10 6 1 11 0
Russian, CCND c..	0 0—17 10 0	Lead—Sheet k ......ton	0 0—19 0 0
„ PSI	0 0— —	Pig, refined	18 15—19 0 0
„ Gourieff	0 0— —	„ common	17 10—17 15 0
„ Archangel	0 0—13 10 0	„ Spanish, in bd.	0 0—17 0 0
Swedish d, on the spot	11 10—12 0 0	Red........	0 0—19 10 0
„ Steel, fagt.	0 0—16 5 0	Dry White........	0 0—24 0 0
„ „ kegs e	0 0—14 0 0	Shot (Patent)......	0 0—20 10 0
Copper—Tile f	0 0—92 0 0	Spelter—(Cake) l on spot	18 15—19 0 0
Tough cake	0 0—93 0 0	„ for arrival ...	0 0—18 15 0
Best selected	0 0..96 0 0	Zinc—(Sheet) m export.*	26 0—27 0 0
Ordin. sheets, lb...	0 0—0 10½	Quicksilver n ......lb.	0 0—0 4 6

a Discount 2½ per cent. b Net cash. c Discount 2½ per cent. d Ditto e In kegs ½ and ¾-inch. f Discount 3 per cent. g Ditto 2½ per cent. h Net cash in bond. i Discount 3 per cent. k Ditto 2½ per cent. l Net cash. m Discount 1½ per cent. n Discount 1½ per cent. * For home use it is 32l. per ton.

[FROM OUR CORRESPONDENTS.]

Business in all kinds of metal has been exceedingly dull this week; there is, however, no fall in prices to notice, except that in the total absence of demand. Spelter appears to be giving way a little.

GLASGOW PIG-IRON TRADE, Feb. 25.—The advance in the price of pig-iron, noticed in our last, is still maintained; and at present there is every appearance of a further advance taking place. There is not a very active demand for home consumption this week, the rise in price having prevented the execution of orders; but the shipments to the continent are considerable. We quote No. 3 at 50s.; mixed Nos., 51s. 6d.; and No. 1 at 52s. 6d.—cash.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Buddle's West Hartley 15 3—Carr's Hartley 15 6—Dipton Tanfield 13—Hasting's Hartley 15 6—North Pontop 13—New Tanfield 14—Ord's Redheugh 14 6—Original Tanfield 13—South Pontop 13—Tanfield Moor 15 6—Tanfield Moor Bute's 14—Townley 15—West Hartley 15 6—Wall's End Bewicke and Co. 15 3—Brown's 14—Hedworth 14—Eden Main 16—Braddyll's Hetton 18—Bell 15 6—East Hetton 13 9—Haswell 18 9—Hetton 18 9—Lambton 18 3—Russell's Hetton 18 3—Stewart's 18 6—Whitwell 14 6—Caradoc 18 3—Hudson's Hartlepool 17—Thornley 16—South Durham 15—Tees 18—Cowpen Hartley 15 6—Derwentwater Hartley 15 3—Sidney's Hartley 15 6—Cliff 13.—Ships at market, 404; sold, 94.

WEDNESDAY.—Buddle's West Hartley 15—Chester Main 14—Dipton Tanfield 12 6—Hasting's Hartley 15 6—New Pelton 13 6—Nelson's West Hartley 15—North Pontop 12 6—New Tanfield 14—Original Tanfield 13—South Pontop 12 6—Tanfield Moor 15 6 Tanfield Moor Bute's 14—Walker's Primrose 12 6—Wylam 15—West Wylam 15—Wall's End Killingworth 14 6—Eden Main 16—Braddyll's Hetton 17 6—Bell 15 6—East Hetton 13 9—Haswell 18 9—Hudson's Hartlepool 17—High Thornley 14—Kelloe 17—Leasingthorne 15—Trimdon 15 6—Adelaide Tees 17 3—South Durham 15—Blaengwaur 22—Derwentwater Hartley 15—Howard's West Hartley Netherton 15—Llangennech 23 6—Sidney's Hartley 15 6—Elgin 15.—Ships at market, 381; sold, 84.

FRIDAY.—Carr's Hartley 15—Chester Main 13 9—Dipton Tanfield 12 6—Hasting's Hartley 15—Holywell Main 15 3—Nelson's West Hartley 15—North Pontop 12 6—New Tanfield 14—South Pontop 12 6—Townley 15—Walker's Primrose 12 6—West Wylam 15—West Hartley 15—Cowpen Hartley 15 6—Wall's End Brown's Gas 13 6—Hedworth 13 6—Killingworth 14 6—Eden Main 16—Bell 15—Hetton 18—Lambton 17 6—Russell's Hetton 17 6—Stewart's 18—Caranoc 17 6—Hudson's Hartlepool 16 6—Denison 15.—Ships at market, 363; sold, 75.

RAILWAY TRAFFIC RETURNS.

Name of Railway.	Lgth. Rway.	Present actual cost.	Price per share	Last Div.	Traffic Returns. 1848	1847
Arbroath and Forfar	16	£179,939	26	4p.c.	£—	153
Birkenhead, Lancashire, & Chesh.	15	706,793	38½	—	611	409
Dublin and Drogheda	35	733,655	52	3½	654	622
Dublin and Kingstown	7½	473,282	—	7	595	543
Dundee, Perth, & Aberdeen Junc.	47½	285,745	30	6	738	250
East Anglian (Lynn to Ely)	26½	908,892	11½	—	472	—
East Lancashire	24	1,207,490	21½	—	971	568
Eastern Counties	202½	7,698,370	15¾	5	10949	8010
Eastern Union	50	979,926	45	—	970	780
Edinburgh and Glasgow	53	2,375,745	42	6	2727	3201
Edinburgh and Northern	29	953,207	20	—	716	—
Glasgow, Paisley, and Ayr	64½	1,890,547	98¾	7	1864	1925
Glasgow, Paisley, & Greenock	23	838,964	17½	3	1002	831
Gt. Southern & Western, Ireland	110½	1,876,326	24½	—	1741	1037
Great Western	269¾	10,630,763	104	8	16109	13267
Kendal and Windermere	10½	147,001	23	—	111	—
Lancaster and Carlisle	70	1,291,913	53	—	1250	—
Lancashire and Yorkshire	92½	6,807,314	88½	7	8457	7164
London and North Western	428	20,010,467	144½	9	34183	32224
London and Blackwall	4	1,146,289	5¾	¾	632	608
London, Brighton, & South Coast	152½	5,659,180	35½	4	5780	3956
London and South-Western	186	5,836,132	52½	9	6355	4543
Londonderry and Enniskillen	14½	160,013	16	—	103	—
Manchester, Sheffield, & Lincolnsh.	46	2,078,135	80	5	2029	1659
Maryport and Carlisle	28	424,417	39	3	538	647
Midland Company	402¾	8,658,604	114¾	7	17764	15832
Midland Great Western (Irish)	36½	583,776	—	—	952	—
Newcastle and Carlisle	65	1,184,080	101½	6	1843	550
Norfolk	81½	1,375,633	70	6	1752	1319
North British	78	2,514,150	26	5	1728	1264
Shrewsbury and Chester	17	591,158	17	—	456	303
South Devon	29	1,339,860	21	—	636	358
South-Eastern	165½	6,398,218	30½	6	6303	4939
Taff Vale	38	785,607	—	5½	1823	929
Ulster	25	646,211	52	6	635	618
Whitehaven Junction	12	130,000	—	4½	167	—
York, Newcastle, & Berwick	236½	3,685,102	34½	9	9746	7810
York and North Midland	230½	3,196869	74	10	5934	4976
FOREIGN RAILWAYS.						
Amiens and Boulogne	68½	573,338	13½	4	956	—
Antwerp to Ghent (monthly)	31	—	—	—	1100	—
Belgian ditto	—	—	—	—	46247	43741
Dutch Rhenish	57½	—	1½	—	—	—
Northern of France	211	2,000,000	10½	4	12385	8287
Orleans to Bourges (Central)	107½	—	—	—	2265	—
Orleans to Tours	72	600,000	—	5	3102	2234
Paris and Orleans	82	2,011,720	47½	12½	7636	6145
Paris and Rouen	85	2,082,916	38¾	9½	6380	5330
Rouen and Havre	59½	—	16¾	4	2595	—
Strasburgh and Basle (monthly)	88	—	6	1½	5892	—
West Flanders (ditto)	—	—	1½	—	964	—

Total earnings for last week, £148,553, being an increase of £26,288 over last year.

JOINT-STOCK BANKS.

Shares.	Companies.	Paid.	Div. p. cent.	Price.
22,500	Australasia	£40	£3	£20½
20,000	British North American	50	6	43½
20,000	Colonial	25	5	9
—	Commercial of London	20	6	20 20½
4,000	Ionian State	25	6	24½ 25
60,000	London Joint-Stock	10	6	15¾
30,000	London and Westminster	20	6	25½
10,000	National Provincial of England	35	5	36
20,000	National of Ireland	22½	5	17
20,000	Provincial of Ireland	25	8	42
4,000	Ditto New	10	8	15 16
20,000	Union of Australia	25	6	23½
10,000	Ditto New	2½	6	2½ 2½
60,000	Union of London	10	5	10 10¾

MISCELLANEOUS COMPANIES.

Shares.	Companies.	Paid.	Div. p. cent.	Price.
10,000	Assam Tea Company	£20	—	£ 3
1,080	Auction Mart	—	£ ½	28
10,000	Australian Agricultural	30	1	22
10,000	Australian Trust	35	—	30
8,000	British Alkali	25	4	16½
10,000	British American Land	35½	—	14
8,600	British Rock and Patent Salt	35	18	11
8,915	Canada	32½	6	31
—	City Bonds (Navigation)	—	3½	89
1,800	Corn Exchange	37½	1½	26½
5,000	Droitwich Patent Salt	25	4*	11
2,700	Equitable Reversionary	95	4½	90
—	General Reversionary Interest	100	5	100 105
0,000	General Steam Navigation	14	1½*	24 25
—	Hudson's Bay Stock	—	10	230 240
2,100	Hungerford Market	100	¾	45
1,500	London Commercial Sale Rooms	—	1½	31 32
8,000	London Reversionary	22	—	24¾
300	Margate Pier	—	10	196
10,000	Mexican and South American	7	—	3½ 4
20,000	New Brunswick	75	—	—
11,600	Peninsular and Oriental Steam	50	7	59 59½
6,600	Ditto	40	—	—
5,387	Reversionary Interest Society	100	4½*	95
—	Royal Mail Steam	—	5½	48½
8,000	South Australian	25	6	—
20,000	Upper Canada	100	5	93 94
20,000	Ditto	—	5	93 94
10,000	Van Diemen's Land	20	—	4

* Those marked with an asterisk (*) are dividend per share.

PRICES OF MINING SHARES.

Shares.	Company.	Paid.	Price.
	BRITISH MINES.		
1000	Abergwessin	7	—
512	Albert Consols	1	2½
1024	Alfred Consols	4½	14
235	Andrew and Nangilles	28½	11½
1000	Antimony and Silver-Lead Mining & Smelting	5	5
1624	Balleswidden	9	18
128	Balnoon Consols	25	25
10000	Banwen Iron Co.	2	—
1000	Barristown	4½	10
4000	Bedford	2½	3½
128	Besore Lead Mine	14	10
315	Birch Tor Tin Mine	24½	—
8000	Blaenavon	50	23
100	Botallack	175	80
120	Brewer	5	7
10000	British Iron, New, regis.	10	13
—	Ditto ditto, scrip	10	12
128	Budnick Consols	52½	30
128	Burthy	20	21
100	Bwlch Cwmerlin	20	—
128	Callestock	17	30
1000	Callington	19	32
20000	Cameron's Steam Coal	4	5½-¾
256	Caradon Copper Mine	9½	2
256	Caradon Mines	22½	17
256	Caradon United	24	5
256	Caradon Wh. Hooper	21	15
1000	Carn Brea	15	105
3000	Carthew Consols	1½	6
2048	Cascade	1	2
112	Charlestown	220	30
166	Cleveland	9	5
512	Coatlithe Hill	½	2
1900	Combmartin	7½	3
500	Comblawn	5½	6
128	Comfort	45	90
256	Condurrow	20	31-2
2560	Cook's Kitchen	14	2
2048	Coombe Tin Mine	4½	2
1000	Coombe Valley Quarry	2½	3½
1000	Copper Bottom	1	1
1024	Cosheen	4½	20
240	Craddock Moor	15½	15
128	Creeg Braws	120	100
500	Cubert Mine	12½	15
1000	Cwm Erfin	1½	2½-3
2048	Dartmoor Consols	3	2
300	D.Prior & Buckfastleigh	14	26
7500	Demelza Mines	2	2
7100	Derwent	8½	5
1024	Devon&CourtenayCon.	7½	2-3
1024	Devon Great Consols	1	210-15
1000	Dhurode	2	5
186	Dolcoath	30	50
2560	Drake Walls	4	4
10000	Durham County Coal	45	9
3000	Dyfngwm	10	12½
256	East Alvenney	10	25
112	East Caradon	42	42
2048	East Crowndale	5½	4½
512	East Combe Silver-Lead	6½	6½
128	East Pool	5	20
100	East Relistian	22	40
—	East Wheal Albert	1	3
94	East Wheal Crofty	125	280
1024	East Wheal Fortune	2	3
1024	East Wheal Friendship	3	3
128	East Wheal Rose	50	1150
2048	East Wh. Rough Tor	½	2
—	East of Scotland Iron Co.	2½	½
123	East Wheal Seton	14	15
256	Elborough	1½	2
256	Exmoor Wh. Eliza	3½	6
512	Fowey Consols	40	45
6400	Gadair	2	2
20000	Galvanised Iron Co.	10	9½
10000	Gen. Mining Co. for Irel.	2	1½
2048	Georgia Tin Mines	1½	1½
256	Gonamena	31½	30
128	Goonvrea	4	1¼
244½	Grambler & St. Aubyn	—	10
100	Great Consols	1000	400
256	Great Callestick Moors	22	25
2560	Great Michell Consols	1½	3½
256	Great Resugga Moor	11	12
512	Gt. Wh. Rough Tor Con.	15½	18
100	Grogwinion	5	—
256	Gwinear Consols	7	10
6000	Heigniston Down Con.	½	2½
256	Herodscombe	4½	4½
256	Herodsfoot	16	18
10000	Hibernian	12½	1½
239	Hobb's Hill	6	3
1000	Holmbush	19	11
827	Kirkcudbrightshire	5½	4½
500	Lady Elizabeth	5	2½
2048	Lamherooe Wh. Maria	11	4
128	Lelant Consols	90	60
160	Levant	—	90
1000	Lewis	15	6½
1000	Llwyn Malees	5	—
3600	Llynvi Iron	50	50
256	Lostwithiel Consols	15	15
6000	Marke Valley	10	4
5000	Mendip Hills	2½	1½
5000	Merionethshire Slate & Slate Slab Co.	1½	2
20000	Mining Co. of Ireland	7	7
256	New East Crowndale	3½	3½
128	North Fowey Consols	37	34
100	North Pool	45	475
70	North Roskear	10½	310
256	North Wh. Abraham	1	1
262	North Wh. Leisure	1½	2
128	North Wh. Providence	2½	3
15000	Northern Coal Co.	23	2
128	Par Consols	—	1000
4000	Pennant	1½	2
100	Penrhiw	30	65
1280	Perran St. George Un.	13	20
128	Perran Wh. Virgin	9½	15
512	Plymouth Wh. Yeoland	4½	21
256	Polsaith Consols	4½	7
112	Providence Mines	35	45
10000	Rhymney Iron	50	20
10000	Ditto New	7	6½
256	Rose Consols	10	2
1000	Rosewall Hill	1	5
256	Rosewarva Mines	—	12
—	Shotts Iron Company	50	55
2500	Silver Valley	5½	2

Shares.	Company.	Paid.	Price.
	BRITISH MINES—continued.		
1100	South Dolcoath	3	2½
128	South Caradon	10	450
256	Sth. Friendsh. Wh. Ann	16	25
200	South Harvannah	10	25
256	South Tolgus	7½	50-2½
256	South Trelawney	20	8½
128	South Yeoland	16½	20
128	South Wheal Basset	110	95
256	South Wh. Betsey	2½	5
124	South Wh. Francis	160	210
256	South Wh. Hope	—	5
1000	South Wh. Maria	2½	2
256	South Wheal Rose	11½	1
256	South Wh. Sophia	4	4½
10000	Southern&Western, Irish	2	4
280	Spearne Moor	30	40
256	St. Austell Consols	9	6
94	St. Ives Consols	—	320
128	St. Michael Penkivel	5	10½
999	St. Minver Consols	1	6
1000	Stray Park	43	17
9600	Tamar Consols	3	4½
1024	Tavy Consols	4	12½-13
6000	Tincroft	7	8
1000	Tin Vale	2	12
128	Tokenbury	143½	10
256	Trehane	2	24
5000	Treleigh Consols	6	3
2000	Trenance	2	50
96	Tresavean	10	210
120	Trethellan	5	16
120	Treviskey and Barrier	130	130
288	Trevean	1½	25
128	Trewellard	12	26½
100	United Mines	300	350
256	Wellington Mines	15	30
128	West Basset	45	30
256	West Caradon	20	120
128	West Cargoll	2	12
512	West Fowey Consols	40	15
256	West Providence	9	25
200	West Seton	40	150
—	West of Scotland Iron Co.	210	210
120	West Trethellan	5	30
256	West United Hills	—	5-8
256	West Wh. Friendship	9	12
3845	West Wheal Jewel	11	1½
2560	West Wh. Maria	3	½
256	West Wheal Shepherd	5	2½
256	West Wheal Tolgus	21½	5
256	West Wheal Treasury	19	10
5200	Wicklow Copper	5	12
184	Wheal Adams	51	10
1000	Wheal Agar	—	10
256	Wheal Albert	10	8
128	Wheal Acland	13	2
256	Wheal Allen	2	5
240	Wheal Anderton	21	25
128	Wheal Ann	—	50½
512	Wheal Ann, Bridford	1	2
512	Wheal Anna Maria	3½	5
1024	Wheal Ash	4½	8
120	Wheal Bal	5½	20
2560	Wheal Barbara	1½	4-5
256	Wheal Benny	10½	6
256	Wheal Blencowe	21	5
256	Wheal Bucketts	20	5
256	Wheal Calstock	3	8½
136	Wheal Clifford	190	190
1024	Wheal Coad	½	5
128	Wheal Courtenay	—	20
6000	Wheal Curtis	2½	2½
256	Wheal Dyke	12	13
256	Wheal Fortescue	6½	5
512	Wheal Fortune Consols	3½	6½
2048	Wheal Frederick	2	2
388	Wheal Franco	27	35
128	Wheal Harriet	45	50
256	Wheal Jane	21	15
256	Wheal Louisa	8½	8
112	Wheal Margaret	79	250
512	Wheal Mary Ann	5	20
256	Wheal Mary Consols	38	26
216	Wheal Prospect	4	7
120	Wheal Reeth	27	80
128	Wheal Rose	60	15
2048	Wheal Samson	½	20
99	Wheal Seton	214	1000
256	Wheal Sisters	29½	20
256	Wheal Sophia	5½	10
128	Wheal Spearne	10	75
128	Wheal St. Ann	9	15
260	Wheal Trelawney	7½	95
256	Wh. Tremaine (St. Ervan)	4½	20
256	Wheal Tremayne	35	25
128	Wheal Trew	20	21
256	Wheal Trevenna	3	4
92	Wheal Tryphena	140	265
121	Wheal Venland	29½	30
256	Wheal Vlow (Perranz.)	½	½
184	Wheal Vyvyan	—	60
256	Wheal Williams	6	14
	FOREIGN MINES.		
5000	Alten Mining Company	14½	3½
15000	Asturian Mining Co.	12	4
20000	Australian	2½	4½
10000	Anglo-Mexican Co.	100	2
12374	Ditto Subscription	25	2½
6000	Barossa Range	½	2
3000	Bolanos	150	3¾
2000	Ditto Scrip	15	3¾
12000	Brazilian Imperial	23	7½
10000	Cobre Copper Co.	40	18
8500	Colombian Co. regis.	55	1
5000	Ditto Scrip	5¾	
5000	Copiapo Mining Co.	14	2½
10000	General Mining Ass'n.	20	13¾
5000	Kinzigthal Mining Ass.	2	3½
20051	Mexican Company	59	—
2000	Mexican & South Amer.	7	1½
5000	Mocaubas & Cocaes	30	6
29320	{ Rl. del Monte, regis. / Ditto unregistered }	28¾	1½-2
	Ditto Red Debentures	—	10
	Ditto Black ditto	—	6
	Ditto Loan Notes	150	60
7000	Royal Santiago	10	6
2000	Pachuca Mines	4	4½
11000	St. John del Rey	15	6½-¾
13174	United Mexican ...Av.	28½	1½

SOUTH AUSTRALIAN SHARE MARKET—Aug. 6.

Company.	No. of Shares.	Capital.	Paid-up.	Present Price.
Burra Burra	2464	£12,320	£12,320	{ £110 scr. 105 cer.
Princess Royal	400	20,000	14,800	70 0
Adelaide	2000	10,000	10,000	4 10
North Kapunda	436	21,800	21,800	12 10
Royal Mining Company	10000	100,009	10s. p. sh.	0 12
Wakefield	500	1,000	£1,000	1 0
Greenock Creek	300	1,000	1,000	6 0
Poonawurta	1000	2,500	2,500	0 16

**** We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of information—our object being, to present as accurate a list of prices as can be obtained—to procure which, we solicit the aid of correspondents in general.*

GAS-LIGHT AND COKE COMPANIES.

Shares.	Companies.	Paid.	Div. p. cent.	Price.
5,000	British (London)	£18	£1*	£17
5,000	Ditto (country)	19	1¾*	23
1,000	City of London	100	10	290
1,000	Ditto New	100	10	290
4,000	Equitable	50	5	38½
10,000	European	20	1½	18
12,000	Gas-Light and Coke Chartered Co.	50	6	55½ 56½
6,000	Ditto New	10	6*	11 11½
9,000	General United Gas-Light Company	50	2	17½ 18½
10,000	Imperial	50	6	75
46,400l.	Ditto Debentures	100	4	100
8,000	Imperial Continental	39½	4½*	54 56
7,000	Ditto New	28	4½*	61
54,500l.	Ditto Debentures	100	5	100 102
2,000	Independent	40	5	64
3,000	London	50	6	49 50
3,000	Ditto	50	5	35
9,000	Phœnix, or South London	43	5	31¾
1,000	Ratcliff	80	5	80
4,000	South Metropolitan	25	6	30 32

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending Feb. 19, was 16,981; amount of money, £70 15s. 1d.

THE CORNWALL RAILWAY.

The meeting of shareholders held at Truro, on Thursday, was at least as satisfactory as, under the circumstances of the country, could be hoped. There was entire confidence, and entire unanimity; while the assurance of a speedy commencement between Falmouth and Truro, with a view, not only to begin without delay all the more difficult works on the heaviest part of the line, but to finish and open the line itself between Falmouth and St. Austell within the shortest reasonable time, is calculated to impart increased confidence, and to inspire renewed vigour.

Identified as we are with the Great Western and its prosperity, the recent successes of that powerful company are to be hailed as our own. The recent half-yearly meeting must have dispelled all doubt from every candid mind on the soundness of its foundation, and the prudence with which all its concerns are managed. The decision of the Railway Commissioners requiring the Taw Vale Railway to be laid down with the broad gauge, which the Exeter and Crediton also must now for their own sake adopt, defeats the trick of buying them out of a part of their own territory, the effect of which would have been, to carry a confusion of gauges into the western peninsula. The decision of the Lord Chancellor, confirming the Vice-Chancellor's previous decree, has secured to them the Birmingham and Oxford line—a line, we may observe, which will be made without a tunnel.

The possession of the most safe, powerful, and rapid gauge must give to the districts possessing it a decided advantage over the rest of the kingdom. These broad gauge territories embrace the chief mineral districts, and the principal harbours of England, the command of both Channels, and the communication with the south of Ireland. We may congratulate ourselves that Cornwall will form a part of this commanding confederation. It is only to be regretted that, from the obstructions which were thrown in our way by the South Western and Central influence, we are little more than beginning our line, which, but for such obstructions, would now be almost completed.

From the statement of accounts, it appeared that the entire receipts, to Dec. 31, 1847, had been 192,306l. 15s.; and expenditure, 140,677l. 15s. 8d.: leaving a balance of 51,628l. 19s. 4d.—*Cornwall Gazette* of this morning.

Motive Power by Electricity, or Electro-Magnetism.—Mr A. Doull, of Euston-grove, has suggested a plan for the application of electro-magnetism to motive-power, particularly locomotion on railways. It consists of a carriage, similar to a first or second-class railway carriage, with six wheels—the four outer only having flanges; the two central wheels are constructed of a series of electro-magnets, radiating from the centre, and placed as close to each other as possible, leaving room, of course, for a non-conducting substance. They are to be connected by plates of hard wood bolted together, care being taken that no metallic contact takes place with the magnets. Supposing the wheel to be divided into four quadrants, the magnets in the one resting on the rail, being positively electrified, would be successively attracted by the metal; while the magnets on the opposite quadrant are attracted by a stout iron rail, placed as close as possible, without being in actual contact—the other quadrants being negatively electrised, are not attractable by the rails. By this means, the author presumes a progressive motion, of great power, would be obtained.

SWANSEA IRON SHIPBUILDING COMPANY.
BUILDERS OF IRON SHIPS, STEAMERS, BARGES, &c.
MANUFACTURERS OF
BOILERS FOR LAND, MARINE, AND LOCOMOTIVE ENGINES,
TANKS FOR SHIPPING, GASOMETERS, ROOFS, &c.,
SWANSEA.

ACCIDENT AT EUSTON-SQUARE.—The METALLIC SAND, or ENGLISH POZZOLANO, after many years trial, has been found an invaluable article in the CONSTRUCTION of RAILWAY TUNNELS, SEWERS, and all UNDERGROUND WORKS, requiring great strength and density. In admixture with Lime or Roman Cement, from its chemical properties, it forms a Mortar, or Concrete, of flinty hardness, and almost entire incompressibility; and, from its adhesive and impervious qualities, it completely and for ever excludes water. The more it is exposed to the atmosphere, and to wet and damp, the harder and more durable it becomes: it has been EXTENSIVELY used in the great tunnels on the London and Birmingham Railway; in the foundations of the New Houses of Parliament; sea walls on the South Devon Railway; Clifton reservoirs, and other important works.
For further particulars, apply to Mr. C. K. DYER, 4, New Broad-street, London.
Analysis of the Metallic Sand.
Silica......... 49—Iron......... 32—Alumina, lime, &c......... 19.

LEAD ORES

Sold at Aberystwith.

Mines.	Tons.	Amount.	Purchasers.
Goginan	30	£14 16 0	Walker, Parker, & Co.
ditto	40	14 11 6	J. T. Treffry.
Frongoch	40	10 0 0	Walker, Parker, & Co.
Sold at Holywell.			
Barristown	28	£12 16 0	Mather & Co.
Sold at the Mine.			
East Wheal Rose	81	£11 11 6	J. T. Treffry.
ditto	61	11 13 0	Newton, Keates, & Co.
ditto	41	10 16 0	J. T. Treffry.
Sold in London.			
Cubert	20	£10 7 6	Newton, Keates, & Co.

BLACK TIN.

Mine.	Tons.	Price per ton.	Purchasers.
Birch Tor	3	£41 0 0	Calenick Smelting Company.
Silver Valley	2	32 5 0	ditto
ditto	1½	28 10 0	ditto

COPPER ORES.

Sampled Feb. 9, and Sold at Farquharson's Hotel, Truro, Feb. 24, 1848.

Mines.	Tons.	Price	Mines.	Tons.	Price.
United Mines	117	£3 13 6	Par Consols	101	£7 5 6
ditto	110	5 18 6	ditto	83	6 17 0
ditto	107	4 4 6	ditto	81	6 17 0
ditto	100	3 1 0	ditto	69	5 4 0
ditto	98	5 16 0	Tresavean	79	5 15 0
ditto	79	3 18 0	ditto	77	3 11 6
ditto	78	5 15 6	ditto	57	4 2 6
ditto	74	3 19 0	ditto	51	3 3 0
ditto	71	3 12 6	West Wh. Jewel	64	2 3 0
ditto	68	5 13 6	ditto	52	4 3 0
ditto	65	3 4 0	ditto	48	2 12 0
ditto	57	3 14 6	Treleigh Consols	56	5 5 6
ditto	53	7 8 0	ditto	47	3 16 6
ditto	52	4 6 6	ditto	42	6 17 6
ditto	40	4 19 0	Wh. Comfort	42	4 19 6
South Caradon	100	6 17 6	ditto	33	2 10 0
ditto	82	8 1 6	West Trethellan	43	3 2 6
ditto	68	7 14 6	East Downs	34	6 0 6
ditto	60	4 13 0	South Tolgus	26	4 5 6
ditto	50	5 4 6	Wh. Unity Wood	13	2 15 0
			North Downs	10	3 12 6

TOTAL PRODUCE.

Mines.	Tons.	Amount.	Mines.	Tons.	Amount.
United Mines	1169	£5336 15 0	Wh. Comfort	75	£304 13 0
South Caradon	360	2415 4 0	West Trethellan	43	134 7 6
Par Consols	334	2216 19 6	East Downs	34	204 17 0
Tresavean	264	1125 6 0	South Tolgus	26	111 3 0
West Wh. Jewel	164	478 4 0	Wh. Unity Wood	13	35 15 0
Treleigh Consols	145	763 18 6	North Downs	10	36 5 0

Average Standard .... £106 3 0 | Average Produce 7½

Average Price per ton £4 19 0

Quantity of Ore .... 2637 tons. | Quantity of Fine Copper, 192 tons 5 cwts.

Amount of Money £13,163 7 6

LAST SALE.—Average Standard ...... £91 7 0.—Average Produce 10¾

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	78	£450 9 0
Vivian and Sons	391	2305 3 6
Freeman and Co.	462	2511 9 0
P. Grenfell and Sons	995	4016 8 0
Sims, Willyams, and Co.	382	1604 14 6
Williams, Foster, and Co.	329	2275 3 6
Total tons	2637	£13,163 7 6

Copper ores for sale on Thursday next, at White's Hotel, Pool.—Mines and Parcels.—North Roskear 784—Consolidated Mines 621—Tincroft 404—Wheal Seton 292—Fowey Consols 258—South Wheal Francis 232—Creeg Braws 228—South Roskear 134—Wheal Bucketts 100—South Wheal Basset 68—Wheal Harriet 56—Great Michell Consols 46—St. Austell Consols 12.—Total quantity for sale, 3237 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—Carn Brea 775—Par Consols 400—Alfred Consols 270—Wheal Prosper 201—Levant 190—Tywarnhayle 141—West Wheal Treasury 126—North Wheal Basset 61—Wheal Agar 60—Wheal Gurlyn 38—East Seton 21—Carn Perran 16—Lewis Mines 16.—Total quantity of ore to be sold, 2315 tons.

COPPER ORES

At SWANSEA, for sale March 2.—Berehaven 113, ditto 97, ditto 94, ditto 45, ditto 33.—Cuba 97, ditto 87, ditto 73, ditto 60, ditto 53.—Cobre 70, ditto 68, ditto 6, ditto 96, ditto 75, ditto 66.—Knockmahon 110, ditto 93, ditto 53.—Holyford 60, ditto 42.—Chili 46, ditto 40.—Ballymurtagh 84.—Kapunda 80.—Glasgow Slag 60.—Vine Slag 21.—Total quantity of ore to be sold, 1829 tons.

Mining News of France.—The untoward events of the past week in the French capital will be sufficient explanation to our readers for the omission of our usual report. All business is at a stand, and how long to continue in that state it is quite impossible to foresee. The news of this morning, we may add, is of the most alarming nature.

NOTICES TO CORRESPONDENTS.

If will at all times save much trouble, and frequently considerable delay, if communications are simply directed—

To the Editor,
Mining Journal Office,
26, Fleet-street, London.

Also, to avoid trouble, Post-Office Orders should always be made payable to William Salmon Mansell, as acting for the proprietors.

*** We should feel obliged to all pursers, captains, or adventurers, to forward particulars of meetings &c., of the mines with which they may be connected, on the earliest opportunity, that they may be published in the Journal with as little delay as possible.

T. Taylor (Clontarf, Dublin).—We think the hydraulic telegraph patent embraces the details of working, rather than the tube filled with water, as the hydrostatic principle has been known for ages. There is no doubt, however, but that the field is still open; and, as our correspondent adopts no piston, but an entirely different system, there is a fair chance for competition. If at any time he feels disposed to forward us information, our columns are open for a description.

"D. L. K."—Budge's *Miners' Guide*, which can be obtained of J. Weale, 59, High Holborn

"E. D." (Allendale).—We are obliged for the communication, and shall endeavour to supply the information required in next Journal.

"A Reader" (Folkstone).—The working model of Clarke and Varley's Atmospheric Railway, can be seen at work daily, at the Poplar Station of the Blackwall Railway.

"S. M. E." (Callington).—Read the *Mining Journal* of the 5th inst.; and also an article on the subject in our present Number.

"N. W."—We are obliged for the offer, but have not space for such lengthy papers—the MS. can be had on application at our office.

Iron Mines of Nova Scotia—Erratum.—Sir: In the letter respecting the new discoveries of iron ore, at Truro, Nova Scotia, "*Dr. Rue*" has been erroneously inserted, instead of "*Dr. Ure.*" Please to correct this, and oblige—E. Musgrave: *Coleford, Dec.* 21.

Received.—W. R. (Plymouth).—W. H. (St. Austell).

Erratum.—In the first leader of last week, for the third line, as it stands, *read*, "to which we *invited* our friends."

We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses; not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

The Mining Journal is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, FEBRUARY 26, 1848.

The circumstances which have recently come to light, make it clear to a demonstration, that the great smelting companies of England have long exercised an exceedingly injurious influence on the mining prosperity of these kingdoms. We shall not, at present, enter at large into the imputations which are levelled against them, nor set out, in this Journal, the several counts, which, if satisfactorily proved, involve their manifest culpability; but, in so far as making an unduly profitable monopoly of this particular branch of business, the frequent and unjust depreciation of the standard value of the ores, and their tampering with the fair market price of the pure metals—in so far as these allegations are capable of being made out against them—their culpability is of a very high shade indeed. It is no case for rose water; we cannot speak to them in the language of Canaan; for such conduct as this, in a great industrial community, is, in the largest sense of the terms, unjust and oppressive. Happily these companies have no rights at law beyond the ordinary rights of individuals, nor any authority of that kind, which sometimes covers, nevertheless, a deal of practical injustice. The evil work they do is done by the strength of their capital, and proves, incontestibly enough, that a power even of that description, if left to work its way unchecked, is as likely as not to result in an intolerable tyranny. If, in our mining districts, the overtasked operatives complain of the absence of a just remuneration, here is one of the efficient causes. If mining adventurers, as a body, are mulcted of the fulness of their dividends, and the value of mining property descends as a whole, here is one fruitful source of the leanness and the deterioration. Surely, we may confidently exclaim, the day must be all but uprisen, that relieves the great mining community from the operation of so noxious and pestilential an influence.

The great public event of the week has been the communication to Parliament, by Ministers, of their financial arrangement for 1848-9. We believe we hazard nothing in saying, that in general their announcement is unsatisfactory; the public would willingly provide for the deficiency which has arisen, and grant the Minister the fullest ways and means for the service of the year; but complaints naturally arise, when the burthens for the maintenance of the public service are so assessed, that the weak are nearly broken down beneath them—while the strong are left virtually without a load. The political state of Paris, and of the French people, is as unsatisfactory and as unsettled as the financial scheme of the British Minister; and the effect of the two in combination, is a pause in the upward course of the public funds; they have not fallen, but they continue heavy and inelastic. That also is too much the character of business in general; the merchandise is largely ordered, the trains are laden, the steam, at a medium pressure, is laid on, but there is little vivacity in the progress of the vast freightage along the rails—the wheels find too much resistance, they revolve heavily, and evidently require some smooth, soft, lubricating agent, as an accelerator.

From the same causes, business throughout the mining markets has experienced the same effects—though, as we have intimated before, having suffered less during the pressure than most other large branches of occupation, it is less affected by those fluctuations which attend, and most necessarily attend, the recovery of commerce in general. Under any circumstances, and whatever hues the commercial, or the political, horizon may be filled with, we have one sure rule—still to be doing. The just remuneration of our exertions may be deferred, the natural and ordinary reward of our labour may, for a time, be withheld, but we shall be laying up a store of some wealth or other (for all labour is property), which, at some time or other, will tell auspiciously on our circumstances, or our comfort. It is as certain now, as it was when the declaration was originally made, that the *diligent hand maketh rich.*

Notwithstanding the enlarged and improved measure recently introduced by the Queen's Government, and also the amount of public attention which the subject has for a course of years been receiving, the question of sanatory reform has hitherto made but little real progress in these kingdoms. The infant and the aged sections of our population may be thinned year by year by a class of low malignant fevers. Summer and winter, prevalent epidemics may decimate this laborious community, in all directions busy around us; and yet no efficient means are taken to abate, to limit, or remove, those accumulations of uncleanness—that pestilential malaria—which, if not the entire cause, is the vigorous auxiliary of these thick-coming diseases. We are beginning to entertain a more accurate sense of our interests, and of our obligations, in this particular direction; and, among others, the county of Cornwall is shaking off the opprobrium which justly adheres to any people willingly continuing in such unwholesomeness and insensibility. The town of Penzance, as we learn from the county newspapers, has continued until this day without an adequate supply of water, either for the resident inhabitants, or for the provisioning of the vessels on their outward or homeward voyages. Noticing this striking deficiency in the resources of the place, a company was formed to bring from its granite basins, about a mile and a half from the town, by means of a covered culvert, a fine body of water into the centre of the town—we think into the market-place—and thence by mains and service pipes to the residences, great and small, of the entire population of the place, at prices of about one-half the amount of those charged by the great water companies of London. A measure so useful, so requisite, so wholesome, had never been suggested to the civic guardians of the place; and, on its announcement, they awoke as if a thunder cloud had broken over their heads; but they would have no participation in, nor give any assistance to, the measures propounded by the new company, and warmly declared their intention of immediately going to Parliament for an Act of their own. They, in fact, took fire, and not water—which they ought to have taken in the manner proposed to them—preferring the expense and labour of a contested application to Parliament to the economy and the justice of giving the priority to those who had the prior and original claim to the management and benefits of the measure. The hon. Member for Finsbury, because the corporation of this great City, of whose wealth and public spirit, and historical renown, a thousand testimonials and a thousand trophies are spread around us, was, in his judgment, a little remiss in making adequate provision for the health of the City, called it, in the high place of the Legislature, the dirty, filthy, stinking corporation of London. We cannot indulge in language half so florid, nor in forms of rhetoric a tenth part so stirring and stringent; but, considering the long torpor of the provincial body we have spoken of, and its perverse denunciation of a highly necessary and beneficial measure, when it had an opportunity of adopting it, no one will say it is called a wrong name when designated, the negligent corporation of Penzance. Of one thing only are we careful—whether the corporation succeed in its application to Parliament, or, which would be the juster result, the original company succeed—that the inhabitants of Penzance, as well as the shipping using the harbour, should have an abundance of this great natural element so essential to health, and to all the conveniences of life. We do not wish to speak slightingly of the discovery of M. Ledoyer, or of that of Sir W. Burnett; but, above almost all other things, we have confidence in the sanatory and disinfecting efficacy of pure water. We suppose we hardly need say, that we have not, nor ever expect to have, one shilling's worth of direct interest in the success of either party. Our interest will be well served, and fully satisfied, by the realisation of the better health and comfort of the town, whatever hands may be most active in bestowing it.

Lord John Russell, in his remarks, on bringing the Budget before the House of Commons, on the 11th inst., has given us hopes of the removal of the obnoxious duties on foreign copper ores; and more than one of our contemporaries, both in London and Cornwall, have again recurred to the subject. As the discussion in the House will, probably, be interesting, it may, perhaps, be as well to refer to an article in the *Cornwall Gazette*, which gives a hard hit at the smelters, and shows "that their profits are enormous—that they are, indeed, a body of monopolists, who stand between the miner and the merchant, and rob both." Now, it must not be considered, that this article, or the tables to which it refers, bears at all on the policy, or otherwise, of keeping up the duty on foreign ores—it merely shows, that the smelters have a monopoly—that they can, at their pleasure, raise, or lower, the price of copper and its ore—and that they make the miner a cat's-paw, to fill their own coffers, regardless of the injustice they inflict on the adventurer and working miner. We believe the abolition of the duties would, in a great measure, relieve this state of things, by giving a greater impulse to the copper trade—by bringing again into this country those ores, which are now smelted abroad, and by enabling us to compete with every country in the world, in the production of merchantable copper. The true remedy for the evils which the miner endures at the hands of the smelter, is the appropriation of more capital, and consequent competition in the process of smelting; and we can see no reason why a few of the richest mining companies should not take steps for erecting smelting-works by subscription, as they would, under any circumstances, meet with extensive encouragement, and such commencement would go far to lay the axe at the root of the monopoly. There cannot be a better proof of what the feeling on the subject is, by a large body of practical men in Cornwall, than the fact, that the adventurers in Wheal Seton (most of whom are also in other large undertakings), one of the most productive mines in Cornwall, have passed a resolution, in reply to Mr. Treffry's circular, to the following effect:—

"The purser having called the attention of the adventurers to a circular from Joseph Thomas Treffry, Esq., relative to the copper duties, and also to the resolutions of a meeting of gentlemen, held at Truro on the 21st of January last, at which a deputation was appointed to proceed to London, on the subject of those duties,—Resolved, that this meeting does not consider it advisable to promote the objects contemplated by Mr. Treffry, and to decline to subscribe to the expense of publishing the documents referred to in his circular; and that the purser be instructed not to pay any sum proposed to be levied on the sales of ores of this mine, to defray the expenses of such deputation."

We doubt not there will be a similar expression of feeling from numerous mining bodies, and that the promoters of the proposed deputation, to assist the Members of the county, will find themselves but poorly supported, either in, or out of, the House. The question of the duties on foreign copper ore is one which, as we have before stated, concerns the great shipping interest of this country to as great an extent as the miner—between 60,000 and 70,000 tons of shipping having been employed in this trade annually alone; and when it is recollected, that for all this copper ore of rich produce, we exported in payment a large amount of cotton, woollen, and metallic manufactures, it will be seen, that any tax, which tends to lessen the importation of foreign ore, also lessens the exportation of our staple products. Copper ore from distant nations has to pay largely for freight, which is, in itself, a certain amount of protection; and while the duties have been swept from other raw articles of production, we cannot see, under any principles of either policy, or justice, why a duty should still be kept up on copper ore, which hardly benefits the revenue, and, by its operation, is evidently injuring our copper trade in all its ramifications. The excuse of the Minister against its abolition has hitherto been, that the revenue could not bear the reduction; but, as Lord John Russell now proposes to increase the income-tax to 5 per cent., we think this plea will no longer avail, and we trust the year 1848 will witness its erasure from the statute-book.

The great consumption of that absolute necessary of civilised life—coal—renders its discovery, in any locality, of the utmost importance—not only to the inhabitants of a district, in which such a deposit may be found, but, in many instances, a valuable boon to the commerce of distant nations, and their intercourse with various portions of the globe. We have lately noticed the discovery of coal in various localities—such as Vancouver's Island, Chili, Western Australia, New South Wales, &c., each of which promises to be a source of wealth to the district, and general benefit to the public at large. As to the discovery of coal in the continental island of New Holland, there cannot be a doubt of the immense benefits it will confer, not only on the locality, but to the whole civilised world. The immense quantities of the richest copper ores discovered are comparatively useless, without a proper proportion of fuel to smelt them with; and, although wooded districts offer strong inducement to the smelter to reduce the ores in the colony, they must be eventually worn out. It appears almost hopeless to find coal in South Australia, the southern half of New Holland being composed of the primitive rocks, granite, gneiss, killas, &c., and generally covered with an alluvial soil of great richness, from a few inches to 3 ft. deep. The discovery of coal in Western Australia holds out hopes for the South Australian proprietors, that at a not far distant date, their copper ores may be smelted on the spot, and thus realise the cost of the difference of freight between the weight of the pure copper and that of the ore, as also enable them to supply the markets of India, China, and other parts in the east, now principally supplied with copper from England direct.

FORTIFICATION OF THE SOUTHERN AND WESTERN COAST TOWNS.

As at the present moment the subject of an increase in our army and navy, and rendering more secure our coasts, by fortifying the easiest assailable points, is occupying so large a share of public discussion both for and against the proposal—and while it is said that Ministers are taking measures for the security of the southern coast, from the Medway to the Tamar—we can see no reason why the still further western ports should not come in for a share of the same considerate watchfulness. We have received a copy of a letter, the production of Mr. R. R. Broad, of Falmouth, addressed to the two Members of Parliament, H. Gwyn and F. Mowatt, Esqrs.; in it he calls attention to the national and commercial importance of Falmouth, as being continually resorted to beyond any port in the kingdom by shipping from all parts of the globe; that at present Falmouth, an opposite neighbour to Brest, possesses no means of defence, either in a naval or military point of view, no men-of-war stationed in her waters, and no troops besides a company of 100 men in the garrison of Pendennis, while there is not a solitary soldier in the opposite castle of St. Mawes, and, in fact, this detachment comprises the entire army of the whole county of Cornwall. From the facility of ingress and egress to Falmouth being well known to navigators, with an excellent lighthouse on its eastern side, it is easy of access to an enemy, with steam-power, by night or day; and in such case, if unprotected, the fleets within its mouth could be easily destroyed. This defenceless condition of the town exposes the whole coast of Cornwall to an enemy's fleet; and, in such event, all the mines and smelting-houses might be quickly destroyed, the invaders making good their retreat, if they had no worse object in view; and forming, as they do, so essential an interest of the kingdom, they are as much entitled to protective care as the dockyards, arsenals, and Cinque ports. The geographical position of Falmouth is peculiar and advantageous; and yet it has been strangely and unaccountably neglected. This state of things, however, cannot, it is hoped, last long; and that, when the railway is brought to its margin, its natural position will be better appreciated.

This is part of a plan for securing the whole southern coast, in a pamphlet from the pen of Mr. Malins, and which we reviewed last week; in it he says—"The dockyards should be secured, the railroads to Plymouth and Pembroke finished, and even to Falmouth and the Land's End, as the most salient points westward." Thus, it appears, the writer of this letter is not singular in his views of the importance of Falmouth being made the barrier for the protection of the county of Cornwall, and the south-western coast of England; and certainly, if increased means of defence are to be resorted to, and our southern and eastern coasts placed in a more secure position; there is as much necessity for the care of Falmouth, and the Cornish coast, as for Sheerness, Dover, Dungeness, or any of the Channel towns.

CORNISH COPPER ORES.

The following is the annual average produce, price, and standard, for seven years, from 1841 to 1847, both inclusive, of copper ores sold at the Cornish ticketings, with the highest and lowest prices of cake copper per ton for each year:—

Year.	*Standard.*	*Produce.*	*Price.*	*Cake Copper—per ton.*
1841	£125 1	7¼	£6 5 0	£100 to £95 0
1842	112 18	7¼	5 12 1	96 to 83 0
1843	109 8	7¼	5 10 0	88 to 78 10
1844	107 8	7¼	5 4 9	88 to 88 3
1845	106 2	7½	5 13 0	93 to 84 0
1846	102 2	7½	5 5 10	93 to 88 10
1847	103 11	8¼	5 14 1	98 to 93 0

EXTRAORDINARY TRAVELLING.

We have been favoured with a route and time table, which has just been prepared for the special express trains from London to Glasgow, by the East Coast Lines, from which we take the following particulars—showing that the distance between London and Edinburgh will be accomplished in the incredibly short time of 8 h. 40 m., and to Glasgow in 57 m. more:—

SPECIAL EXPRESS.

London to Glasgow—(by the East Coast Lines)—*via Rugby, Derby, Normanton, York, Darlington, Newcastle, Berwick, and Edinburgh.*

	Arrival. H. M.	*Departure.* H. M.	*Detained.* H. M.	*Miles.*	*Time Performed* H. M.
London	—	5 35	—	—	—
Rugby	7 15	7 29	0 14	83	1 40
Derby	8 25	8 27	0 2	49	0 56
Normanton	9 35	9 37	0 2	64	1 8
York	10 6	10 9	0 3	24	0 29
Darlington	11 2	11 4	0 2	45	0 53
Newcastle	11 55	12 3	0 8	39	0 51
Berwick	1 35	1 42	0 7	65	1 30
Edinburgh	2 55	2 57	0 2	58	1 13
Glasgow	3 57	—	—	46	0 57
Totals			0 45	473	9 37

The Electric Light.—We had supposed our own countryman, Mr. Staite, had made the greatest advances towards the perfection of the electric light; but we learn, however, from Paris, that a splendid exhibition has been made in the Théatre du Palais Royal, which was attended with the most splendid results. We believe it was about 1820, that Bunzen first caught the idea of attaching cones of carbon to the poles of the conductors from the battery, and enclosed in an exhausted glass globe; and this produces a light so vivid, that the eye cannot bear it for an instant. The experiment was repeated in Paris, some time since, on a large scale, at the Place de la Concorde, which far surpassed any previous conceptions. The flame was wonderfully intense; and as the reflector was turned to different portions of the surrounding scenery, each object arose to sight, with a light equal to day, and with a suddenness from the darkness which appeared magical. The illumination of the theatre in the Palais Royal is thus described:—The electric light, with continuous spark, obtained by the new battery of MM. Lomolt and Archereau, is an area in artificial illumination; the large light with which the experiments were previously tried, was used by the manager to illumine the house during the first act of the *Banc des Huitres.* The intensity of the spark was such, as to eclipse the lights of the lustre, and those on the stage. By aid of an ingenious piece of mechanism, connecting him with the wires from the battery, M. Lemenil, an actor, placed in front of the stage, emitted from himself a spark of such brilliancy, that the theatre was as light as during a bright sunshine. The importance of the peculiar arrangement of this battery is, that the spark obtains a continuity of brightness before unknown; it is probable it will soon be employed for all public purposes, for the different tones of colours can be distinguished by it as by daylight. The spark itself, although smaller than the flame of a common gas burner, is said to be equal to 300 burners, and, consequently, surpasses all the hydro-carbon lights, and throws its rays to a distance three times as great. M. Lemolt is still occupied following up the experiments, and expects to make still further improvements.

The Malacca Tin Trade.—The *Singapore Free Press* gives some detail of the mining progress within the British territory of Malacca, which are satisfactory evidence of the spirit of industry and improvement abroad in distant settlements. The tithe on the production of tin, for example, brought for the year ending 1846, $1026 only; for 1847, $3345; for 1848, $8190: 40 congsees, or associations of capitalists, employ 2000 Chinese in the collection of ore. The quantity of tin on which the tithe must be collected, which is farmed out, would be 4553 peculs, on which the farmer made a profit of 30 per cent. The tin was taxed in Calcutta at 10 per cent.; a large tax for the produce of a British territory, and which ought to be reduced or abolished. Malacca tin, a strange and objectionable anomaly, paid 20 per cent. duty in the whole to Government, whilst foreign tin paid only 10 per cent.

The Singapore papers also furnish the following statement of the quantity of gold dust imported into that port from the month of August to the 11th of December last:—From Borneo, 4047 buncals; E. C. Peninsula, 3518; Sumatra, 97; Celebes, 775; Malacca, 3½ = 8440½ buncals. The above amount formed the actual quantity of gold reported through the office of the Registrar of Imports and Exports. The actual quantity imported, however, was very much greater.

Mines in Eastern Australia.—We are given to understand, that a party of 20 miners, with their wives and families, have, within the past few days, left Plymouth for Australia, by the *Elphinstone*, bound for Sydney direct. We cannot but express our surprise, that while emigration is encouraged to that clime, the commissioners and Government should withhold assistance in cases where the parties sent out are calculated so much to enhance the value and prospects of the country, by delving and searching for the mineral resources of the colony, which would appear to have been discovered in various parts, and which it should be the province of Government to foster and encourage. The party are proceeding direct to the mines. We learn, from the dispatches lately received from the colony, that there is ample employment for working miners on liberal terms; while, it may be observed, that it is only of late mines have been discovered in the eastern district, the mine under notice being the only one at present at work. Some samples of the ore produced have been assayed, and found to yield 35 per cent. A cargo of 150 to 200 tons is expected in a few months, which, we need hardly say, will be the most satisfactory report. We have, in another column, however, extracted a report of the meeting lately held, from the Sydney *Shipping Gazette*, which gives an outline of the company's operations.

SARAWAK (Borneo).

So much interest has been excited as regards this territory, or colony, forming a part of the Island of Borneo, that we have made some minute inquiries as to the nature of the soil, its advantages in point of position, as laid down in the charts, and its mineral and other resources. We have to express our obligations to Mr. Hiram Williams, who was employed, on the part of Government, in making a survey, and reporting thereon; while the information which we are enabled to afford, is not only original, but supported by the evidence and personal observation of his Highness the Rajah Brooke, of Sarawak, who also fills the office of Governor of Labuan. Ere entering on the advantages presented by Sarawak to the capitalist, or settler, we may make some passing observations on Labuan, which lies about 330 miles, or 28 hours' voyage, north of the former. By the latest advices received, under date 20th Dec., which came by the honourable company's steamer, the *Phlegethon*, we find, that operations were still active in working the seam of coal at the north-east point of the island, nearly 400 tons having been raised and stored. The crew of the vessel had, it appears, been actively employed in constructing jetties, at several points, in Victoria Bay, and in erecting buildings for storing the coal. The advantages of Labuan, as a coal depôt for our steamers, situate, as it is, between Singapore and the Manillas, and in a line with the China Seas, may well be appreciated. It is proposed, on the arrival of the Governor, to proceed with the colonisation of the island. Having thus briefly noticed the seat of the British Government, we at once proceed to render such information as we have acquired respecting Sarawak, which, from the representations made, promises to become an important field for mining and agricultural productions.

Sarawak, it is hardly necessary to say, is in the Isle of Borneo, with two rivers, which approach it in a north-west and north-easterly direction; the river is navigable for vessels of 700 to 800 tons burthen—her Majesty's ships *Dido* and *Samarang* having anchored close off the town. The tide is stated to rise and fall 18 ft.; and as there is a depth of 5 fms. at low water, it is almost needless to state, that vessels are, at all times, afloat. The town of Sarawak is on the banks of the river of that name, containing about 12,000 inhabitants, and is about 540 miles, or 45 hours' voyage, from Singapore, in a north-easterly direction, and 330 miles, or 28 hours' passage, from Labuan, the seat of the British Government, which is immediately north, the latter point being within 23 miles of Bruni, the population of which is full 20,000; from this point to the Manillas, in the China Seas, is a distance computed at 690 miles, or 58 hours. The extent of the territory may be assumed at about 200 miles east and west, by 100 miles north and south. A grant of land has been secured, in the first instance, by Mr. Hiram Williams from the Rajah, extending over 2000 acres, which is conveyed by deed, under date the 29th Jan., with power of extension, and is situate immediately south of the town of Sarawak, being admirably placed as regards wharfage; while an option has been granted, of the right to secure the whole river frontage, on the south side, from the fort to Lintang—a distance of 5½ miles.

In the grant so acquired, in addition to the commercial advantages presented by the *locale*, land has been secured for the erection of buildings and manufactories, as well as the right of searching for, and extracting gold dust, which is found in considerable quantities throughout the district, more especially the western and southern valleys, or base of the mountain tracts.

Before proceeding to remark on the mineralogical formation, or produce, we may note that the cost of clearing the land, so far as we can ascertain, is from $20 to $30 per acre, according to the quantity of wood and jungle required to be removed—these being the current prices paid for similar work at the present moment. Labour is stated to be both plentiful and cheap—the pay of a man being $3½ to $4 per month. The quality of the vegetable produce, or that arising from the cultivation of the soil, is represented as being very superior, and holding out advantages as to production not often met with. Sugar, cotton, coffee of the Mocha character, sago, nutmegs, cocoa-nuts, vegetable tallow, arrow-root, pepper (black and Cayenne), rice, ginger, and a variety of other spices, are here cultivated; while, not to omit one of the latest introductions in this country, the gutta-percha is produced in high perfection. Indigo has also been introduced, and is said to promise equally favourable results.

In addition to the land secured by the grant, some other property, in course of cultivation, has also been acquired, which promises most favourably to be a successful undertaking, and thus enhances the value of the other property granted by the Rajah. We have, as a matter of curiosity, as well as interest, endeavoured to arrive at results as to the periods when the produce may be expected to be returned after planting; and, without pledging ourselves to the strict accuracy of the returns, we believe the following will be found near the mark:—Sugar, 18 months after planting; cotton, six months; coffee, 18 months; sago, five years; nutmegs, five years; cocoa nuts, five years; vegetable tallow, 18 months; black pepper, six months; Cayenne pepper the like time; ginger, 12 months; rice, 12 months; arrow-root, the like period; and gutta-percha, seven years. We may here observe that, without reference to the transit of the produce, the communication between this country and Sarawak, by Overland mail, is set down at 45 days.

Having thus given an outline of the contemplated advantages arising from colonising this tract, as to vegetable and surface products, it now becomes our province to advert to the mineral products of the country. It would appear that a large quantity of gold dust is annually raised—some specimens of which, in large grains, have been submitted to us—as also antimony, which is obtained of a superior nature, and in much larger needles than we have before seen it. A considerable quantity of the former the Chinese obtain by washing the earth and delving to a depth of some 4 to 5 ft.—the gold dust, from its specific gravity, having made its way through the alluvial, or lighter, soil. The value of the grant thus secured by Mr. Williams is greatly enhanced by the right conferred in it to work the gold dust throughout the territory at an easy royalty; and it is intended to put a force to work at one or two of the principal points, which have been described to us on the chart—a copy of which we possess, and which we shall be happy to submit to the inspection of any party who may feel an interest in this undertaking.

We need hardly say that, in directing attention to Sarawak, or Labuan, we have a British colony; the management and supreme power over which is placed in the hands of the Rajah—an Englishman of whom, indeed, England may be proud; and which has been already manifested by her Majesty and the Government. We, therefore, hail with pleasure the prospect of this rising colony speedily becoming the object of British enterprise; for we understand that Mr. Williams is now under the special patronage of the Rajah, who has shown such perfect confidence in his zeal and intelligence to carry out the project, by conceding to him so valuable a grant as we have described; and who proposes, with the assistance of gentlemen of capital and enterprise in London, to form a company by whom the products of the country, both mineral and agricultural, will speedily be turned to profitable advantage, which its immense and valuable resources are so well calculated to yield.

The Pitman's Hymn.

"I went down to the bottoms of the mountains: the earth with her bars was about me for ever—yet I remembered the Lord: and my prayer came in unto Thee—into Thine Holy Temple."—*Jonah*, ii., 67.

Deep in the bowels of the earth,
Our daily work we find:
This lot—Great Author of our birth!
Thy Providence assign'd.

Around us breathes no fragrant spring—
No sunshine cheers our day:
Here not a song-bird spreads the wing—
Here blooms no verdant spray.

One scene through midnight, twilight, noon—
Unchanging darkness yields:
The sun, the evening star, the moon,
Shine not on these black fields.

Buried at work—where vapours chafe
Hot, stifling through each cave—
Our place of toil, *this* moment safe,
May *next* become our grave.

Then should we, from these depths of death,
Lift up our hearts in prayer,
That Thou, who gav'st our living breath,
Would make our lives thy care.

O God! if Thou thy grace impart,
Praise cheers our murky way:
If Christ be present in the heart,
Our darkness turns to day.

Lord! Thou canst hear, from depths profound,
Thy meanest follower's call:
On earth, at sea, or underground,
Thine eye is over all.

Then, hear—O hear us! hear, and keep
Us, 'midst our dangerous toil;
The world above us lies in sleep,
Or burns its midnight oil.

From cavern'd floods—where rocks impend—
Or fire-damps round him lurk—
O God, Omnipotent! defend
The Miner at his work!

The Conside Iron-Works, Shotley-bridge.—This gigantic undertaking—now the largest in England of its kind—is proceeding with increased vigour; a new rolling-mill having been lately attached, by which the company are enabled to turn out no less a quantity than 1000 tons of manufactured iron per week. This is wholly independent of the large finishing establishment of the same company at Bishopwearmouth. The population brought together to work the concern at Conside is upwards of 20,000, and the weekly wages paid them now amount to about 4200*l*.—*Durham Chronicle*.

Original Correspondence.

EXPLOSIONS OF FIRE-DAMP CONNECTED WITH FALLS IN THE BAROMETER.

Sir,—The fearful loss of life that annually takes place in our collieries demands the serious consideration of all friends of humanity; therefore, I request the favour of being allowed to occupy a small portion of your columns, for the purpose of giving a little information, which may tend to prevent some of such casualties.

In my communications with owners and overlookers of mines, for the last 10 years, I have constantly called their attention to the liberation of light carburetted hydrogen gas—or "fire-damp," as it is usually called—on sudden falls of the barometer. A vague opinion prevails among most working colliers, that explosions of fire-damp are in some measure connected with the state of the weather; but nothing in the way of precaution is derived from it. By examining the times of the occurrence of the accidents with a record of the changes of the barometer, many of the former will be found to have taken place when that instrument marked the lowest pressure of the atmosphere, and more especially on the occasion of a sudden fall, after it had stood high for a considerable time.

The late accident at Heathfield, near West Bromwich, recorded in your columns, by which a number of valuable lives were sacrificed, is a proof of the connection of explosions of fire-damp with depressions of the barometer. This lamentable event took place on Wednesday morning, the 9th inst., at about 6 o'clock A.M. By consulting the published barometrical observations, it will be found that the mercury stood at 10 o'clock A.M., on the 8th inst., at 29·67 in.; at 4 P.M., of that day, it had fallen to 29·53; at 12 o'clock at night, to 29·10; whilst at 10 A.M. on the 9th, it had gone down to 28·63—thus showing a depression of 1·04 of an inch in 24 hours, and the maximum depression about the time of the accident.

Fissures in rocks, and porous strata near to seams of coal, generally contain fire-damp. When these are opened, by sinking shafts, the gas contained in them on the "dip," or lower portion of the mine, will, for the most part, gradually escape, owing to its specific gravity being much lighter than common air; but it will be confined in the rise, or upper part of the strata, just like gas under a receiver, in a pneumatic trough, is by a column of water. The waste, or place where the coal has been removed, on the rise of the mine, if unventilated, which is but too frequently the case, will also be a vast gas holder. So long as the pressure of the atmosphere remains the same, the gas will continue pent up in the fissures of the rock, or confined to the waste; but as soon as the pressure diminishes, out rushes a volume of gas into the workings; and, if naked candles are used, explosions like that at West Bromwich ensue.

No scientific instrument is of greater value than the barometer to the owner and overlooker of a colliery; and no establishment ought to be without one placed near each upcast pit; and both overlookers and men ought to be directed constantly to observe it, and regulate the ventilation of the mine according to it.

I by no means intend that a barometer should dispense with good ventilation, the careful examination of workings by a competent officer prior to the men being set to work, or the use of Davy lamps, when necessary; but only contend, that the barometer ought to be carefully observed, so that the currents of the air courses underground may be increased when, by its fall, it indicates a lightening of atmospheric pressure, and the consequent extraordinary liberation of gas in the mine. Especial care ought always to be directed to ventilation, whenever the mercury in the barometer begins to fall, after it has been standing at a great height for a considerable time previously.

Some accidents will, with the best management, occasionally occur in coal mines; but a great many of them most undoubtedly can, and ought to, be prevented. Both for the sake of preserving the lives of workmen, and for the purpose of preventing the loss of property caused by explosions in collieries, every precaution ought always to be used; and, certainly, the trifling expense of providing and carefully observing a barometer or two, ought not for a moment to be considered.

40, *Cross-street, Manchester, Feb.* 20. Edward W. Binney.

STRIKES OF WORKMEN IN THE MINING DISTRICTS.

Sir,—Allow me, through your useful Journal, to state, from actual observation for the last eight years, the cause of strikes—every one of which is alike hurtful to both men and masters, not forgetting what the public suffer generally. The labour of every man, however humble he may be, and however little he may do, ought to be appreciated, not only by his employer, but by the State. It is the duty of the latter to improve the condition of the people, both physically, morally, and intellectually, as thereby every one receives benefit; and we always find the more men are informed, the more useful and profitable will they be to the community—whilst the intelligence they possess will secure to themselves a lasting source of *real pleasure*. But it happens, unfortunately, that the kindly feeling which man ought to have for his fellow man, is no part of the creed taught in the colliery and iron districts; hence, we find men certainly in masses congregrated together, working like slaves one part of their time, and spending money at another with as little care or thought as if they could every day go and coin more: here scenes the most brutal and disgusting take place every pay-day, particularly when work is plenty, and money easily earned; here, the wine-shops and beer-shops are in full trade—for, from the agent to the meanest draw-boy, all are engaged in one occupation—namely: *drinking*. The agent, or clerk, may sip his wine and smoke his cigar with more prudence than the hard-toiled, emaciated collier. The former may be able to go to his books in the morning, or stroll about to recover himself; but the latter is completely prostrated and laid up by the excess he has gone into, and he must suffer for the next month to come for his imprudence, and deny himself those necessaries he stands so much in want of to renovate his already-disorganised, diseased frame. No agent sympathises with him—no shopkeeper finds him food—no beer-shop drink, unless he earns it. What amount of both mental and physical suffering must this man endure, particularly if he has got a family to support! His wife and children must go out and work at the pits or the brows, or down in the levels, and at duties fit only to be performed, in a great many instances, by brutes only.

Now, what is the *real cause* of all this misery, and what makes men so bitter against masters the moment they have an opportunity? Merely because there is no sympathy between them. The master says, "If you do not work, you shall not eat;" but the man says, "Had you not encouraged taverns and myriads of beer-houses to be erected and protected to steal away my brains and money, I would have been able not only to go to my work, but I could have paid for food to support me. Instead of throwing temptation in my way, throw instruction; put me up a cottage to live in that I can approach with satisfaction, when my day of toil is over—not such a pig cot as I now inhabit; give me an opportunity to cleanse myself at a bath—the hot water from your engines will not cost anything; and I will pay you a trifle weekly for a place to change myself in. I can then go home to my family refreshed, and enjoy my meal with satisfaction. Allow me a bit of garden to amuse myself in; promote schools for my instruction, and books for my mental food; show me that you care for me; tell me the nature of trade, that I may see the reason I cannot always have plenty of work and good wages; show me the nature of saving banks, of insurance societies, and the danger I am in every day of being called to account to my Maker for the time I have spent in this world; and whether I have been a good and faithful servant or not. I say, teach me all this, and I believe we shall not think of strikes. I am ignorant, and you keep me so. Destroy the noxious influences thrown in my way; encourage your agents to be sober; first put down beer-houses, and all gamblers of this description; do away with butties; employ men of education to superintend and instruct us, and we shall feel pleasure in working under them; and the consequence will be, we shall be fairly paid, and you will have your work done properly and more profitably in the end, and, surely, more satisfactorily. It would be better for us to work three days in the week, in times of depression, at our usual wages, instead of six at reduced; but, if you improve our moral condition, we can save money, and get credit for our labour, and still continue making the usual quantities, until things get round again, instead of being driven to want and despair, and continually shifting about; the uncertain mind is always dissatisfied. You need not be afraid that education will make us dangerous—as a proof of it, remember the Chartist riots." I am sure this subject only requires consideration to be appreciated; and, thank God, many of our ironmasters are men who will follow up these suggestions. When they do so, then begins the power that will annihilate *strikes*.

Abergavenny, Feb. 22. Humanity.

THE DOWLAIS IRON-WORKS.

Sir,—As your Journal is looked up to as the record of incidents relating to mines and manufactures, and as you have not hitherto chronicled any account of the momentous change now falling upon the largest iron-works in the kingdom, in consequence of the influx of its mineral lease, I have been induced, in the silence of those better qualified for the task, to forward you the following particulars:—The iron-works alluded to are situated at Dowlais, in Glamorganshire, and are well known over the continent of Europe, as well as in Great Britain. They comprise 18 blast-furnaces, and an adequate number of refineries, puddling and balling-furnaces, forges, and rolling-mills, for the manufacture of all descriptions of iron; also, foundries and workshops, for making engines, fitting up machinery, &c., as well as extensive collieries and iron mines, adequate to the supply of these departments with minerals and fuel—the whole constituting an establishment which gives employment to 7000 workpeople, and upon which they, their families, and dependents, to the number of 30,000, rely for their daily bread.

Such is the happy, busy picture which these works, until recently, presented; "but a mighty change is now coming over the spirit of its dream"—to enable your readers to understand which, I ought, in the first place, to acquaint them, that the works in question are supplied with minerals from an extensive common, held by the present owners of the works, under lease from the most noble the Marquis of Bute. The lease was granted 99 years ago; and, from the low royalties payable by it, it is supposed the then owner of the property was actuated in his grant by a desire to benefit a sterile neighbourhood. However, whether these, or whatever other philanthropic views actuated him, the capital of the lessees has since opened out and developed the value of this waste country; and by their formation of roads and railways, and their establishment of iron-works, a degree of prosperity has attended it, unequalled by any other district. Years have rolled on, and in May next the lease expires. The gigantic iron-works of Dowlais are now being dismantled, and the workmen discharged. During the last few years, repeated negociations have been pending between the present Dowlais Company and the noble lessor, in fruitless endeavours to effect a renewal of the lease. The Dowlais Company, on the one hand, contending, that as the works are situated at a disadvantageous distance from the shipping port, and as the minerals, which lie near the surface, and easy of access, are now worked off, and that those which must be worked in future lie at great depths, they do not consider they would be placed in a position to conduct the works with success, if they had to pay more than a fair and equitable royalty rent. The noble lessor, on the other hand, looking upon the princely fortunes which the owners of the Dowlais Works have, by their exertions, under a favourable lease, realised, has, it appears, anticipated a reciprocal feeling, and looked for a payment of high royalties from the company, to remunerate him for the advantages he was unable to enjoy, by the low terms of the old lease.

The minerals have been repeatedly advertised to be let, but no one has come forward to take them. The Dowlais Company are, therefore, left to remove their expensive erections at a great sacrifice, as well as compelled to leave unprovided for the numerous parties who have invested their savings in houses, and other property, in the neighbourhood, the intrinsic value of which entirely depends upon the prosperity of the works. It is estimated, that the stoppage of this concern will cause a sacrifice of property of the value of not less than 2,500,000*l*. sterling—about 1,000,000*l*. of which will have to be sustained by the company, and the remainder by the owners of property in the locality, and by the public generally. The hitherto thriving town of Dowlais, with its institutions of learning and places of public worship, markets, and other buildings, will be, I fear, ere long, marked by little else than a heap of deserted ruins.

Cardiff, Feb. 22. Z.

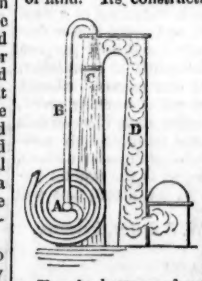
SILVER MINES OF THE BLACK FOREST, IN GERMANY.

Sir,—Having read, in the *Mining Journal*, Mr. Ansted's letter relative to the ores of silver, I beg to offer the following remarks thereon:—Mr. Ansted, in his communications, would appear to attempt to throw a certain degree of doubt on a statement made by Mr. Hunt, in one of his lectures on the mines of the British isles. His paper, however, not only fails to invalidate Mr. Hunt's remarks, but bears evidence of being written for another purpose. Mr. Hunt stated in his lecture, that "it could not be strictly said that there were now, or ever had been, any true silver mines in the United Kingdom, though, from a very early period, many mines were worked with a view of extracting the silver from the lead and copper ores with which that metal was united." In order to prove that this fact is not universal, Mr. Ansted, forgetting that the Black Forest does not form a part of the *United Kingdom*, repairs thither to talk of a mine of which he is "consulting mining engineer," and which would appear from his statements to be very productive. Now, had Mr. Ansted wished to draw the attention of speculators to the facts detailed in his letter, he might, I conceive, have done so without taking as his text Mr. Hunt's lectures on the mines of the United Kingdom, which have, assuredly, no connection with his paper on the mines of *Sillerberg*.

Wandsworth, Feb. 22. Ox——y.

THE WHEEL PUMP.

Sir,—I observe in the *Mechanics' Magazine* of the 5th inst., an account of the Zurich wheel pump, as given in Gregory's *Mathematics for Practical Men*, and for which same invention, it appears, Mr. Henry Adcock, of Moorgate-street, took out a patent the 30th of Dec., 1840. The machine in question is a most ingenious and simple contrivance, and well calculated, as Mr. Adcock claims, for either the irrigating or unwatering of land. Its construction is such, that it necessarily pumps up both *air* and *water*; and it has, therefore, only to be enclosed in an artificial atmosphere—say a chamber containing smoky acid, or other noxious vapours—to mix and carry the same up the upcast pipe along with the water in which it works. Or another and better plan would be, to combine the Zurich pump with the expired patent of Jeffery's, of Bristol, for condensing vapours by a shower of water, as shown in the adjoining sketch, where A is the wheel pump, B, the upcast pipe, C, the shaft, or chimney, with perforated cullender at top, and connected with D, the main, or chimney, shaft, leading from the smelting boiler, or other large furnace, to which it may be applied, for condensing the smoke, &c.



For the better understanding of the wheel pump, it will be unnecessary to give Mr. Adcock's specification, as it is briefly, but fully, described in Parthington's *Manual of Natural and Experimental Philosophy*, as follows:—"When a spiral pipe, consisting of many convolutions, arranged either in a single plane, or in a cylindrical or conical surface, and revolving round a horizontal axis, is connected at one end by a water-tight joint with an ascending pipe—while the other end receives, during each revolution, nearly equal quantities of air and water—the machine is called a spiral pump. It was invented, about 1746, by Andrew Wirtz, a pewterer at Zurich. The end of the pipe is furnished with a spoon, containing as much water as will fill half a coil, which enters the pipe a little before the spoon has arrived at its highest situation—the other half remaining full of air, which communicates the pressure of the column of water, or of water mixed with air, in the ascending pipe. The air nearest the joint is compressed into a space much smaller than that which it occupied at its entrance—so that, where the height is considerable, it becomes advisable to admit a larger portion of air than would naturally fill half the coil, and this lessens also the force required to turn the machine. The joint ought to be conical, in order that it may be tightened when it becomes loose; and the pressure ought to be removed from it as much as possible. The loss of power, supposing the machine well constructed, arises only from the friction of the water in the pipe, and the friction of the wheel on its axis; and where a large quantity of water is to be raised to a moderate height, both of these resistances may be rendered inconsiderable; but, when the height is very great, the length of the spiral must be much increased—so that the weight of the pipe becomes extremely cumbersome, and causes a great friction on the axis, as well as a strain on the machinery—thus, for a height of 40 ft., Dr. Young found that the wheel required above 100 ft. of a pipe which was three-quarters of an inch in diameter; and more than one-half of the pipe being always full of water, we have to overcome the friction of about 80 ft. of such a pipe, which will require 24 times as much excess of pressure to produce a given velocity as if there were no friction. The centrifugal force of the water in the wheel would also materially impede its ascent, if the velocity were considerable—since it would always be possible to turn it so rapidly as to throw the whole water back into the spoon. The machine which Dr. Young had erected being out of repair, he thought it more eligible to substitute for it

a common forcing pump, than to attempt to make any further improvements in it, under circumstances so unfavourable. But if the wheel, with its pipes, were entirely made of wood, it might, in many cases, succeed better; or the pipes may be made of tinned copper, or even lighter than lead." The great value of this pump consists in its having no valves—hence it is not stopped by weeds, small pieces of wood, &c. It might be cheaply worked by wind, water, or steam-power; and I am only surprised it is not better known and universally practised. If any of your correspondents can give information on the subject, I, with others, shall feel obliged.—A PLUMBER: *Borough, Feb.* 18.

PECULIAR COPPER ORES IN SOUTH AUSTRALIA.

SIR,—It is not, perhaps, generally known, that with the vast abundance of copper ores in South Australia, there is at least one species found in large quantity, from which the purest copper can be obtained at a single operation. This species seems to be quite new, as neither Dr. Thomson nor M. Berthier has described it. The ore in question most resembles the very rare mineral found in the Mysore by Dr. Heyne, first analysed by Dr. Thomson, in 1814; but it differs essentially from it, in not containing a particle of iron, or silica. Its constituents, by my analysis, are, per cent.—protoxide of copper, 42·15; deutoxide of copper, 39·85; carbonic acid, 11·07; water, 6·93; the per centage of copper in the metallic state is, therefore, 69·21. Its predominant colour is green, produced from an infinite number of minute needle-form crystals, of hydrous green carbonate of copper; these crystals are interspersed with a brownish-looking substance, composed of the protoxide of copper and the anhydrous carbonate of the deutoxide of copper. With this ore in a pulverised state, it is only necessary to mix charcoal, and submit the mixture to the heat of a reverberatory furnace to obtain the purest copper. The acknowledged superiority of the Japan copper may be entirely owing to the Japanese possessing ores of this description.—W. BIRKMYRE: *Feb.* 25.

GROUND ICE.

SIR,—I am not sure that there is a more curious phenomenon than that of "ground ice," or one more difficult of solution; and if Sir John Leslie's views of radiation were correct, I confess I see insuperable difficulties in the way. The phenomenon of mists on the bed of rivers has been solved by Sir Humphrey Davy, as in the case of the Severn; and the formation of ice on inland lakes, which have no considerable depth of water, with its *absence* on *very deep* collections of water, is satisfactorily solved by enlisting the phenomena of radiation into the elements of the problem. A clear sky and a calm atmosphere leave the act of radiation free and unrestrained. The surface water, being cooled by radiation, sinks, and leaves exposed a fresh surface to be cooled down, and in succession to be followed by a new exposure to the influence of radiation. Now, the entire mass must be cooled down by the exposure in this way of successive strata, before quiescence occurs; the maximum of density being minus 39°. The surface must, of necessity, be also further reduced in temperature, before it becomes sheeted with ice. So far the case is plain, and we encounter no difficulty; but "ground ice" is not so easy of solution. I am reminded of this curious phenomenon, by what is, in severe winters, of no uncommon occurrence at Newport Pagnell, where I have lately been, and this occurred during the late severe frost. The surface of the river remained entirely free, while the bottom of the river, at a depth of 8 to 10 ft., was sheeted with ice. The surface water being in motion, easily accounts for the non-formation of ice there; and it seems to me—and observation corroborated this—that the stratum of water was quiescent at the bottom: this being premised, I see no difficulty in accounting for the ice formed under such circumstances. Radiation being admitted to operate through the liquid medium, on the stratum of water remaining in a state of quiescence below, notwithstanding Sir John Leslie denied that radiation was effective through a stratum of water—this, I believe, however, is a complete error. Radiation is decidedly active through a thick sheet of glass. On the common window even, during a clear winter's night, the *interior* of the glass pane is frosted with an icy efflorescence, and that, too, in contact with an interior temperature of, perhaps, 50° to 60° Fahr.—a sufficient proof that the act of radiation is not impeded by a diaphanous medium of glass. I have seen, under such circumstances of temperature, an incrustation of ice; and, in conjunction with the late Dr. Ritchie, we proved together, that radiation was not in the least impaired by an intervening sheet of water. Certainly, the calorific rays of light are not blunted by their transit through a depth of sea-water exceeding 15 fathoms, as was demonstrated in the case of Mr. M'Intosh in the diving-bell, off Plymouth, whose coat was burnt by the rays of the sun, concentrated by the lens at the top of the diving-bell. Thus do I believe, contrary to the opinion propounded by the late Sir John Leslie, that radiation does operate in, and through a medium of, water; and that "ground," or "anchor," ice affords conclusive evidence that it does so.

Portland-place, Hull, Feb. 24. ——— J. MURRAY.

PATENT HYDRAULIC TELEGRAPH.

SIR,—In reply to the queries of your Abergavenny correspondent, "R. S.," respecting the practicability of the "hydraulic telegraph," under certain atmospheric pressure, between towns of different elevations, I beg to say, taking that difference at 500 ft., the pressure upon our piston of half an inch in diameter would be equal to 58½ lbs. We have specified two plans to meet this difficulty, should it occur. First, then, it would only be necessary to place a lever with a weight equal to the amount of atmospheric pressure, whatever it may appear, to keep the column in equilibrium. Should the parties who may adopt the "hydraulic telegraph," consider the lever and weight as inconvenient, the introduction of a steel elliptic spring, placed at the top of the piston-rod, and above that a fulcrum, the inconvenience would be effectually remedied, and their purpose equally answered. Both these plans we have submitted to *experiment*, and have determined them to be *perfectly efficient in their powers*. Should any objections arise through their liability to get out of working order, particularly with regard to the springs, we have other plans to supersede the aforenamed, which will be extremely simple and comparatively costless; but I do not feel myself justified in explaining these inventions, which experiment has proved to be correct, and equal to the counter balance of a column of water of from 1000 to 2000 ft.; but these plans will be duly specified in a new patent now progressing.

Wellington-street North, Strand, Feb. 24. F. W. JOWETT, Patentee.

THE HYDRAULIC TELEGRAPH.

SIR,—A lecture was delivered at the Scientific Institution, Leicester-square, last evening, on Mr. Jowett's hydraulic telegraph. The lecturer, after pointing out the defects of the electric telegraph, proceeded to describe Mr. Jowett's patent; and, to do justice to the inventor, I must admit that it is very ingenious and simple in its action—but, like all others, has its defects, and certainly one of the greatest the patentee has entirely overlooked. I put this question to the lecturer—Suppose a line of telegraph on this principle to be laid down from London to Brighton, which would be one continuous column of water—the tube being buried from 1 to 2 ft. in the ground, covered with sand—now, Sir, if by accident the tube is fractured, or bursts from ordinary pressure in working, how is the defective part to be discovered without uncovering, perhaps, from 20 to 30 miles of the tube, which would be an enormous expense? The quantity of water from the fracture would be so small, that it would be absorbed by the earth, without giving any visible indications from the presence of the water at surface. The lecturer, not being able to answer this question, proceeded to inquire, what there was to fracture or burst the tube?—To this I simply replied, the same agent that bursts the water and gas-pipes in the streets. So, because I merely asked a few practical questions for information, it was circulated among the audience that I was connected with the Telegraph Company—consequently, I was assailed from all parts; but, perhaps, you will permit me to state, in justice to myself and to the Telegraph Company, that I am in no way connected, either directly or indirectly, with that proprietary; but I must remark, that it is a sorry invention that will not bear investigation.

Fleet-street, Feb. 25. ——— CIVIL ENGINEER.

HYDRAULIC TELEGRAPH.

SIR,—You will oblige me by stating, that I am not connected with any hydraulic telegraph company.—FRANCIS WHISHAW: *Gray's-Inn, Feb.* 25.

UNDERMINING.—The Bradford workhouse is threatened to be remorselessly undermined by coal workings, unless 200*l.* be paid down directly to prevent the risk of its destruction; but the threat appears to have accidentally revealed the fact, that both the ground and the minerals beneath its surface belong to the workhouse itself! So that the biter is likely to be bit, if it be true that he has thus unwarily caught a tartar.

THE HYDRAULIC TELEGRAPH.

On Thursday evening Mr. Malcolm gave a lecture at the Western Literary and Scientific Institution, Leicester-square, on Jowett's Patent Hydraulic Telegraph, and its merits as a commercial communicating agent, taken in comparison with the electric telegraph. Having alluded to the model before him, the tube of which was glass, and explained that such would not be the case in practice, but that they would be of metal—he observed, that of all the discoveries of the present century, there were, perhaps, none equal to the electric telegraph, which was one of the offshoots of the railway system. It was not, however, to be expected, that inventors would cease their scientific investigations, and give up all hope of a substitute. Various plans had been devised, but, he believed, at present, Mr. Jowett's was the best, and was devoid of many defects inherent in the electric telegraph. He felt much obliged to Mr. Jowett for the information he had received, to enable him to address them that evening—one object of the institution being, to communicate to its members all inventions and improvements in the arts and sciences.

The lecturer then observed, that Professor Wheatstone was the first who employed the properties of electricity in the deflection of the magnet to useful purposes—particularly to the transmission of intelligence; he then went on to describe the code of signals, as used at all the stations of the Telegraph Company, and pointed out its defects; he showed, from a diagram, that they employed the whole alphabet, excepting J Q and Z—substituting for them I K and S: this was an evil, as there were many words which required the peculiar sound of them to be expressed on the signal. A circular signal dial was also described, in which he pointed out how, on it, every letter could be expressed with the greatest facility. He was, however, bound to suppose the former was the best in practice, as it was used at all the stations, although both belonged to the company. He then described the signals of the hydraulic telegraph, which consisted merely of the alphabet, placed in a vertical column—one station having A at top and Z at bottom, and the next the reverse; and thus, as one piston rose and the other fell, the letters were read off with the greatest facility. He then described the action of the hydraulic telegraph—the principle of which depended on the incompressibility of water, and that by pressing on one end of water, in a tube of any length, a corresponding pressure was transmitted in all directions. Dr. Lardner had observed, in his Encyclopædia, that, "if a tube, filled with water, one end being in London and the other at York—if pressure be applied in London, a similar pressure would instantaneously be felt at the end in York."

He related the experiment of placing water in a hollow globe of gold, and plugging it, when, by applying great pressure, the water oozed through the pores of the gold, rather than suffer the least compression. With respect to the hydrostatic pressure, where there was a considerable difference of altitude between stations, the patentee overcame this difficulty by weights or springs applied to the piston at the lower stations; he had, however, a far superior and more scientific plan, but not being yet quite secure as a patent, he could not describe it. The action of the signal bell was then shown, which was merely a cam piece on the piston-rod, which struck the bell on the first rise of the piston, the attendant then putting the bell out of gear, until the conversation closed. He described the mode in which one, two, three, or all, or any, of the stations, can be put in communication; explained many defects inherent in the electric telegraph—such as by expansion and contraction of wires, they get loose, and sometimes touch, when the current is arrested, and brought back by the other wire, the difficulties and cost of diverging at branches, effects from atmospheric electricity, &c.; while the hydraulic telegraph could be effected by none of these—one tube was sufficient; their signals were explicit and definite, their mode of communication instantaneous, and he thought he had made out, at least, a *prima facie* case in favour of the hydraulic telegraph; the only fault he saw at present was, that it had not been tried on a large scale—it had been tested on one mile coil of tube, and found to answer precisely as in the model before him, and he considered, if there was no difference between a few feet and a mile, there would be none between one mile and a hundred. He believed the fault of not being tried, would, however, not be of long duration. The lecture was well attended, and some little discussion followed on the merits of the various details.

THE ELECTRIC TELEGRAPH IN AMERICA.

Sixteen years since (in October, 1832) Professor Morse, on his return voyage from Europe, conceived, on board the packet-ship *Sully*, the invention which is now exciting so much attention throughout the civilised world. Having the curiosity to know how he was led to the conception of so novel a thought, we asked Professor Morse, some weeks ago, to tell us. He informed us that it occurred in the following manner:—

After the usual midday meal, he and several other passengers of the *Sully* were seated at the table in the cabin, conversing on scientific subjects; and, in describing some recent phenomena of electro-magnetism, the experiment of Dr. Franklin on the Schuylkill River, to test the velocity of electricity, was alluded to. The thought at once occurred to Professor Morse, that if electricity travelled a distance of three miles instantaneously, and could be made visible in any desired part of its course, a system of signs might be devised by which intelligence might be sent. This was the germ of the invention of the electro-magnetic telegraph. In the leisure of the voyage, the invention thus conceived was nourished, and assumed, before the close of the voyage, substantially the character which marks it at this day; for it is a circumstance to be noticed in Morse's invention, that it was conceived in all its essential characteristics, as he has personally informed us, in the first half-hour after the thought had occurred. These characteristics were the marking of dots, as signs for numerals; the recording at a distance, upon paper, in a permanent manner, these signs, and by means of electro-magnetism, or electricity, and a single circuit of conductors. A species of type was at once devised, and in the first week after his arrival in New York he had made the mould and cast the type; but, in consequence of very limited means, and the pressure of professional duties, he did not construct his instrument complete until several years after. This was done, however, in the latter part of the year 1836, in the New York City University; and early in the year 1837, and frequently during the summer and autumn of that year, its operations were witnessed by thousands in our community, who are living witnesses to the fact.

These undeniable facts prove incontestibly, that the American telegraph holds precedence in time to all others. Of its superiority every day is furnishing evidence, both at home and abroad. Let the daily work which it performs testify. While the telegraphing of the Queen's speech of 700 words in 2½ hours, after much rehearsing and laborious abbreviation, is blazoned throughout Britain as a most marvellous feat, the skilful operators of the American telegraph in the United States are in the daily habit of transmitting four times the amount in the same time, as the columns of the *Herald* daily show. The governor's message from Albany, consisting of 5000 words, was sent to this paper in 2½ hours, making the difference as 5000 to 700 in favour of the Morse system.

One of the peculiarities of the Morse system is his conventional alphabet for the telegraph, composed of the simplest conceivable elements of signs—to wit: a dot or point, and a line the simple prolongation of a point. It is this part of his invention which enables him to accomplish so much. We have not space to explain the eminent advantages which are the result of this improvement on the common alphabetic letter, further than to say, that the remarkable simplicity of the telegraphic machinery is one consequence, and another of great practical use in the faculty of speech—actually speech—with which the inanimate machine is endowed. Morse's telegraphic instruments speak, as well as write, their messages. Nothing in the least analogous to this belongs to any system of electric telegraphs, as yet devised. It is the result of the mechanical impressing of the conventional alphabet. Professor Morse has often alluded to this magical effect in private conversation; but we have never seen it so well described as in the following extract from an article "On the Electric Telegraph of Professor Morse, by C. T. Chester," in the January number of *Silliman's Journal*:—"Each office has its peculiar call or signal, to which, when the line is in order, an immediate response is expected. Thus N expresses New York. The sound is so familiar as instantly to arrest the operator's attention, though he should be at a distance from the instrument. Thus the American telegraph is phonetic—it appeals to two senses. Long messages have been faithfully recorded from attentive listening to the peculiar sound of the instrument. There are systems of abbreviations, too—many ordinary words and sentences being expressed by a single letter or numeral. By the aid of these, and a quick year, conversation may be carried on between operators with wonderful celerity. To the skilful operator the little brass instrument becomes an articulate creature; it not only conveys his written thoughts, but expresses his passing emotions. He detects the individual with whom he converses, and can recognise the effect of his own conversation, as producing pleasure, vexation, or indifference."

The tariff of charges for transmitting messages differs slightly in their prices, on the various lines, for the same distance. These prices are easily ascertained at any of the telegraph offices. The New York, Albany, and Buffalo line has the lowest rates. When the numerous lines which are now threading the country shall have been completed, and in full operation, a convention of the various companies will, doubtless, settle a uniform tariff of postage. If cheap postage in the mail system is most profitable, there is no reason to doubt that the same effect will hold good in the telegraph; and, therefore, it is for the interest of the companies to reduce the charges to as low a standard as possible; but it is doubtful if much reduction can take place. However high the charges on any of the American telegraph lines may seem, they are trifling, indeed, when compared with the charges on the English telegraphs. To make this plain we give a single example. The charge for sending 20 words from New York to Poughkeepsie, a distance of about 80 miles, is 37½ cents; while for 20 words from London to Dover, about 88 miles, the English charges are 11s. sterling, or $2 42 cents.

From the facts we have stated, it is evident that the Morse system of electric telegraphs is most likely to be universally adopted; and that sooner or later, by fair means or foul, the substantial characteristics of the American telegraph must be adopted in Europe. Already there are indications in England which point to this result. Wheatstone's and all the needle telegraphs in operation there, are so inefficient, and so expensive, compared with Morse's, that the Electric Telegraph Company of London, who are monopolising all the telegraphic inventions, are about to adopt a new invention of Bain, which is nothing more nor less than the dot and line alphabetic system of Morse; and from which they are already anticipating such results as shall throw into disuse all the former systems used in Britain.—*New York Herald.*

SCOTTISH CENTRAL RAILWAY.—We understand that the Government Inspector, on Tuesday last, examined the part of the Scottish Central Railway, from Stirling to Castle Cary (on Edinburgh and Glasgow), previous to its being opened; this will be a very great convenience, as the journey to Stirling is at present performed by two-horse coaches—those to and from Edinburgh between Stirling and Falkirk, and to and from Glasgow between Stirling and Castle Cary.

SOUND MADE VISIBLE.—A method has been discovered and matured, by which sound will be made visible to the human eye, its various forms and waves demonstrated to sight, and the power to discriminate between the tones of one musical instrument and another be as complete as to observe the action of water when disturbed by any material cause. The experiments are likely to be ere long repeated in the Royal Society. The exhibition of effects on fine sand has probably led to this astonishing issue.—*Literary Gazette.*

PILBROW'S ATMOSPHERIC RAILWAY.

COURT OF COMMON PLEAS, FEB. 22.

PILBROW *v.* PILBROW'S ATMOSPHERIC RAILWAY COMPANY.—This case, which occupied the whole of yesterday, was resumed this morning. The action was brought against the representatives of Lord Desborough, the Earl of Essex, and Mr. Lambert, on a covenant in the deed of the company, of which they were three directors, to recover 14,000*l.*, part of a sum of 15,000*l.*, covenanted to be paid to the plaintiff for his patent, 1000*l.* only of which had been paid. There was a great number of pleas, 24 in all, setting up fraud and deception on the part of the plaintiff, and that the invention being useless the patent was void. Mr. Serjeant Talfourd, Mr. Bramwell, and Mr. F. Robinson, appeared for the plaintiff; and Sir F. Thesiger, Mr. Peacock, and Mr. Bovill, for the defendants.

For the plaintiff, the deed was put in and the covenant proved, and witnesses were called, who stated that Pilbrow's invention was a great improvement over that of Mr. Samuda. In Samuda's Atmospheric Railway there was a long slit on the top of the tube, out of which the atmosphere was exhausted, to admit of the connection between the piston which drove the carriages, and which was propelled by the atmosphere and the carriages. This slit was covered by an elastic strap, which made the tube air tight by means of cement. The atmosphere affected this cement; sometimes it would melt, and sometimes crack, and the leakage was very great. The difficulty of causing a vacuum was thus great. Pilbrow's patent was to remedy that. On the top of, and along the air tube was a square chamber, communicating with it along its whole length. Every 30 ft. along the square chamber spindles were let in with a cog-wheel or pinion at the end of the spindle in the chamber, and a cog-wheel or pinion at the other end of the spindle outside the chamber, the spindle working in a socket or hole drilled in the chamber and ground to fit nearly air-tight. A piston was fitted into the air tube, which was driven by exhausting the atmosphere. Attached to the piston was a long rack with cogs on it; these cogs fitted into the bottom cog-wheel or pinion on the spindles, turned the spindle, which, turning the pinions or cog-wheels outside the square chamber, gave the means of locomotion to the carriages; at the bottom of the carriages there being a long rack with cogs on it fixed to them. The pinion outside the square chamber being turned round by the spindle set in motion by the piston, caught the rack fixed under the carriages, and thus drew them on. A model of the invention was exhibited for some time at the Adelaide Gallery. With Samuda's plan, the air tube was above ground; and, therefore, it was impossible, without bridges, to cross any line on a level. In Pilbrow's plan the air tube was sunk below the level of the ground, and this inconvenience did not arise. Several scientific gentlemen, among whom were Dr. Hewlett, Messrs. Wishaw, Thorold, Bonham, Robertson, Ashwell, and G. Rennie, gave their testimony in favour of the invention, and considered the plan was better than Samuda's; there would be less leakage. Samuda's plan was now in operation in South Devon successfully. In the opinion of Mr. Rennie, friction pinions would be better than cog-wheel pinions, and would be sufficient to communicate motion to the carriages, the friction being obtained by spring pressure of the rack against the smooth pinion. In the model worked at the Adelaide Gallery the air was exhausted first out of a large iron cylinder, communicating with the air tube by a stop-cock; the stop-cock was turned, and thus the air tube was suddenly exhausted.

For the defence, it was contended by Sir F. THESIGER, that the whole scheme was a bubble, and that the invention was worthless, and that the company had been fraudulently got up by the plaintiff and Mr. Collins, the secretary, they knowing that the invention was worth nothing. In cross-examination, and from the defendant's witnesses, it appeared that the 4-in. tube, at the model in the Adelaide Gallery, ought to draw, according to a calculation of the Earl of Essex, in order to be efficient, a weight of 10 tons. Practically, it would only draw 3 cwts. A very intelligent mechanic, named Gore, the maker and exhibitor of that model, stated in evidence that the pinions with smooth surfaces, or friction pinions, had been tried, but had no traction; that the smooth racks slipped through them, the piston flying to one end of the tube and leaving the carriages at the other. They resined the surface of the wheels to try and remedy this; still the rack attached to the piston, and gained on the rack attached to the carriages, for want of tractive power in the pinions, or rather from their slipping round on the rack. The driving wheel of a railway locomotive had a pressure of from 10 to 13 tons on it; yet in starting a train it slipped round on the rail. To supply a pressure equal to 10 tons, by springs or otherwise, would be a continual resistance to the progress of the rack affixed to the carriages, which the tractive power of the piston could not overcome. Cog-wheels were then tried at the model, but these were being continually knocked off. Sometimes, in the rapid progress of the rack, it would strike the cogs on the pinions, instead of running into gear; and then the carriages would stop midway, and pitch out the passengers owing to the momentum. The cogs were completely worn out in two or three months at the model. The rack within the square chamber, communicating with the air tube, not fitting air tight, gave a leakage, which the exhausting engine could not overcome; and therefore, to remedy that, a larger air cylinder, equal in contents to the air tube, with a stop-cock, had been attached to the tube, that, by exhausting the air cylinder and turning the stop-cock, the air tube might be suddenly exhausted. Practically, in working, no air cylinder could be made of sufficient magnitude to exhaust 10 miles of air tube. From the evidence of Mr. Highton, Mr. Bidder, Mr. Cottam, and Mr. Fairey, civil engineers, it appeared, that at a velocity of 30 miles an hour, the rack striking the pinions on the spindles not in motion, and hitting the cogs, would shiver them to pieces, and no invention of India-rubber cogs on the rack would remedy this, as these cogs would be stripped off. On the Blackwall Railway, it was necessary to have the cog-wheel, which drew a train of four tons by a rope, stationary, before it was thrown into gear. It had been attempted to throw it into gear when the wheel was slowly going round, and the wheel had been nearly stripped of cogs 18 inches broad. But at 30 miles an hour a train would be equal in force to 100 tons striking the pinions at rest, and they would be stripped and snapped like a packthread. Cog-wheel machinery could not be thrown into gear whilst going at the rate of 3 feet a minute, without danger of stripping the cogs; 30 miles an hour was 2640 feet per minute. With two pinion holes every 30 feet, there would be 352 holes in a mile, the leakage through which, with wear and tear, would be greater than with Samuda's scheme. Commercially, the plan was worthless. The Blackwall Railway, by rope, cost on an average 1s. 6d. per mile per train. Samuda's, on the Croydon line, cost 5s. a mile; and the cost by Pilbrow's plan, if it would work, would be greater than Samuda's. Applied to canals, the interest of the money which the line of tubes alone would cost, would be more expensive than the whole cost of draught by horses; and, in the opinion of Mr. Bidder, a donkey's power would beat the atmospheric scheme. In the opinion of these gentlemen, the invention was not of the least use on earth, and was "an egregious mistake of an ingenious man." Some slight evidence was given that Mr. Pilbrow was informed of the failure of the models made, and that he had attempted to obtain improvements "to keep the thing going till something should turn up."

In reply, Mr. Serjeant TALFOURD contended that this was an unworthy attempt on the part of the company (several of whom were of high station—amongst others, the Marquis of Douro and the Earl of Essex) to escape from the responsibility which they had entered into; that the company had never given the invention that trial which they had undertaken to do; and, in the absence of that trial, it was a mere conflict of opinion. The fallacy of such opinions had been proved in railway locomotion and steam-boat traffic, and he yet hoped to see the day when the Ariel (if he might so term it) of atmospheric traction would overcome the Caliban of fiery locomotive power.

His LORDSHIP, in summing up, said, the plaintiff stood on his contract entered into with the defendants. The defendants said, the contract was unfairly obtained—that the patent was worthless, and the plaintiff knew it, he being consulting engineer as well as inventor. The answer to which was, that it had not been tried. His Lordship then laid the issues before the jury, on which they were to decide. 1. Whether the instalments had been paid, out of which the plaintiff's claim was covenanted to be paid.—2. Whether the sum might and could have been raised by the calls.—3. Whether a reasonable time for the payment had elapsed.—4. Whether the patent was not illegally and wrongfully vested in the company, as consisting of more than 12 persons.—5. Whether a second deed entered into was not a substitute for the first.—6. Whether the deeds were obtained by fraud from the plaintiffs.—7. Whether the invention was of any public use or benefit; or whether it was not wholly useless, and the patent therefore void. The jury on the first, second, sixth, and seventh of these issues, found for the defendant. On the other issues the verdict was entered for the plaintiff, subject to a motion *in banco*.

THE ATMOSPHERIC SYSTEM—CONTINUED FAILURES ON THE SOUTH DEVON RAILWAY.—Notwithstanding the repeated statements of the complete success which has attended the working of the atmospheric system on this line, as made by two provincial journals—evidently the organs of the engineers—it is clear that the longitudinal valve, with its accompanying sealing material, can never be relied on for regular railway transit. The failures which are constantly occurring are, as much as possible, glossed over, and kept from the press and the knowledge of the public; but such failures do continually occur; and the constant attendance of a locomotive engine in readiness on the line, for the purpose of propelling the trains when the vacuum cannot be kept up, proves that the promoters themselves have no faith in their own system; but are determined as long as possible to throw dust in the eyes of the shareholders, and bolster up the principle to the last. The annual meeting, however, takes place next week, when a complete exposition must be entered into, and the shareholders informed of every detail connected with the formation and working of the line, more particularly as to its boasted economy. We have been informed (whether true or false, we leave to the parties interested to explain) that, during a dry and windy day, a short time since, above 20 men were employed in keeping the valve in a situation to seal—the dust blowing on to the grease, rendering its surface dry, and absolutely useless, without such attendance. We have before us numerous dates when the train has been propelled by locomotives—the monstrous stationary engines blowing their hardest all the time to obtain a vacuum—thus employing two systems to do the work of one; and, a Sunday or two since, a train was propelled by the men in the company's employ, pushing it along at the rate of half a mile per hour. These things must be explained to the satisfaction of those who have put their faith in the system, and shown it by investing their capital in the undertaking. We believe the system of atmospheric propulsion to be mechanically sound in principle, and much honour is due to the inventor of even the valve principle; but it is evident it is not calculated for practical working. It has, however, led to other plans, which are proved to be almost perfect in action, and which we are satisfied, from having paid long attention to the subject, one real trial of a few miles will prove as successful in all the essentials of railway economy as the valvular system has proved a failure.

RAILWAYS AND LANDOWNERS.—The following summary of the results of seven appeals to the verdicts of juries which have lately occurred in Lincolnshire, furnishes a curious proof of the expectation of landowners, and of the justice of their complaints of want of consideration on the part of railway directors. The total amount claimed by the seven landowners was 27,290*l.*; the sum offered by the Great Northern Railway Company was 12,076*l.*, and the amount awarded by the verdicts of the juries was 11,850*l.*, being 226*l.* less than the sums offered by the company, and not amounting to 45 per cent. upon the sums claimed by the landowners.

NAVIGATION OF THE UNITED KINGDOM.—The total number of foreign vessels which entered the ports of the United Kingdom in the year ending the 5th of January, 1848, was 29,561: the united tonnage of which amounted to 6,091,052. In the year ending the 5th of January, 1847, the number of vessels was 24,848, and the tonnage 5,130,771. The number of vessels which cleared outwards in 1846-7 was 24,656; and in 1847-8, 25,564. The number of vessels employed in the coasting trade in the year 1846-7, was 141,116; and in 1847-8, 142,525.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY ....Waterford, Wexford, and Wicklow Railway—offices, at Twelve.
Eastern Counties Railway—London Tavern, at Twelve.
Whitehaven and Furness Railway—offices, at Two.

MONDAY.....Dyfngwm Lead Mining Company—London Tavern, at One for Two.
Plymouth Wheal Yeoland Mining Company—at the mine, at Six.
Herodsfoot Mining Company—at the mine, at One.
Herodscombe Mining Company—at the mine, at One.
Newmarket Railway—London Tavern, at Two.
Great Western and Uxbridge Railway—offices, at Twelve.
Wycombe Railway—offices, at Twelve.
North American Colonial Association of Ireland—offices, at One.
Banwen Iron Company—offices, at Twelve.

TUESDAY.....Wheal Trehane Mining Company—at the mine, at One.
Furness Railway—offices, at One.
Electric Telegraph Company—offices, at One.
Camargue Estate Improvement Company—offices, at Twelve.
Charing-cross Bridge Company—offices, at One.
General Steam Navigation Company—offices, at Two.
Provident Life Assurance Company—offices, at One.
North Staffordshire Railway—London Tavern, at Two.
Thames Haven Dock and Railway—offices, at One.
British Empire Mutual Life Assurance Society—offices, at Three.
Asylum Life Assurance Company—offices, at Two.

WEDNESDAY ..London and Westminster Bank—offices, at One.
Hallette's Atmospheric Railway—offices, at One.

THURSDAY.....South-Eastern Railway—London-bridge Station, at One.
Clerical, Medical, and General Life Assurance Company—offices, at One.

FRIDAY.....Silver Valley Mining Company—offices, at Two.
La Jahottiere Iron-Works Co.—Mr. Tatham's offices, Throgmorton-street

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

IRISH WASTE LAND IMPROVEMENT SOCIETY.

The annual general meeting of shareholders in this society was held at the King's Head Tavern, Poultry, on Thursday last, the 24th inst.

The Right Hon. the Earl of DEVON in the chair.

Mr. FRY (the secretary) read the notice convening the meeting, when the CHAIRMAN read the following directors' report:—

REPORT.

Owing to their not being enough proprietors present at the summer meeting, the present report must embrace the proceedings of the whole of the past year. The detailed explanation is given in Col. Robinson's report; and your directors regret to say, that the unanimous resolution passed by the proprietors at the said general meeting of July last—viz.: "To support the directors in carrying out the original objects of the society, and honourably to meet the engagements into which they had entered,"—has not been so well responded to as they had expected; and it, consequently, remains for you to decide what course shall be adopted towards those defaulters, of whom a list will be laid before you. Your directors have also to report, that previous to making the sixth call, and to the (abortive) meeting in August last, they deemed it expedient to forfeit 525 shares for non-payment of the preceding (or fifth) call, including the special case of one proprietor also, who had not paid his fourth call—the total sum due upon such forfeitures being 1050*l*. The confirmation of this act your directors intended to propose at the meeting in August last; since that time, however, the bankruptcy of one proprietor of 50 shares, and the death of another holding 10 (whose representatives require legal notice thereof), with a few others that cannot yet be legally forfeited, causes these shares to be omitted from the list; but the forfeiture of the remaining your directors now ask to confirm.

The next important matter for your consideration, is the loan proposed to be taken from Government, for which, in conformity with the authority given at a former meeting, a negociation has, after a protracted correspondence with the Board of Works and other official persons, been brought to a very forward state; and your directors have at length obtained the offer to "advance to this society 1500*l*. for the further improvement of their estates, to be repaid by annual instalments within 20 years." In consequence of this intimation, therefore, and in compliance with the Act under which it is granted—viz.: 9th Victoria, cap. 1—a special general meeting has been summoned for this day, to follow the general one, to take that matter into consideration. Meanwhile, your directors have now to apprise the shareholders that four members of the board—viz.: William Blount, George Denny, Newman Smith, and Robert Ponsonby Staple, Esqs.—retire by rotation at this meeting, but are eligible for re-election, and now offer themselves accordingly. There are also two vacancies in the direction, occasioned by the retirement of Messrs. John M. Maude, and William Ormsby Gore, Esqs., which must likewise be supplied at this meeting, and for which the Rev. H. C. Cholmondeley, and John Ward Harding, Esq., now also offer themselves for election. The balance of cash in hand on the 31st of December last (to which day the accounts are made up, in compliance with the Act of Incorporation), was 115*l*. 5s. 6d.; and the balance of the assets and liabilities on the same day, was 13,894*l*. 10s. 2d. The exhausted state of the society's available funds, evidenced by the former trifling balance in hand at Christmas, which has not since been much increased in amount, is, of course, accounted for by the foregoing statement as to the call.

The almost unexampled difficulties which have recently pressed so heavily upon many interests in this country, and more particularly upon the landed interest of Ireland, coupled with the great outlay occasioned to the society, in encountering its unavoidable share of the calamity, have necessarily retarded the prospect of improvements, from which alone a return to the shareholders is to be expected; but they feel that the position of the society is fully as good as under the peculiar circumstances of the times could be expected; and they still entertain very confident hopes of a successful issue of advantage to the shareholders who persevere in their exertions to carry out the important undertaking in which they are engaged.

Col. ROBINSON (the manager of the estates) then read a voluminous report on the state and prospects of the three estates of Kilkerrin, Gleneske, and Ballinakil, and the methods adopted during the past eventful year, to avert the calamities which befel the rest of Ireland. He descanted, at great length, on the miseries of the west of Ireland generally—the vastly-numerous deaths from starvation and fever, many of which arose from want of food and medicine, for in a number of cases there was an entire absence of both medical or spiritual assistance. The society had expended 1500*l*. in food and seed for the tenantry, and had kept them at various employments—the consequence was, they had got tolerably well through the year, and were now in a state of prospective comfort. The report took a review of the intended operations on the several estates, among which was the erection of a grist-mill, which, it was expected, would be finished in a short time, and would be of the utmost assistance to the district, and profit to the company—there being not one nearer than Galway, a distance of 50 miles. The crops of oats, turnips, potatoes, &c., were more plentiful, and of better quality, than they had been for years, and there was every appearance of a bountiful harvest, and of progress to complete prosperity.

A letter from Col. Robinson to the Earl of Devon was read, in which he stated his wish to have subscribed a portion of his salary towards relieving the pressure upon the society last year, but the draw upon his limited resources prevented it. He this year, however, wished to place 100*l*. at the society's disposal.

A special resolution was then passed, authorising the directors to borrow the 3000*l*. of the commissioners of public works, which would leave a margin over the 1500*l*. mentioned in the report, in case more should be wanted.

Sir THOMAS BURKE, of Marble Hall, said he was much pleased with one part of Col. Robinson's very excellent address—viz., that which related to the erection of the mill. He was sure, if it cost 500*l*. or 600*l*., it would be money well laid out, and return a good profit. He mentioned an instance of a steam saw-mill converted into a corn-mill—it originally cost 2000*l*.; and, though not answering as a saw-mill, now brought in from 700*l*. to 800*l*. a year.

Col. ROBINSON said, some idea might be formed of the returns, when he assured them that the population, who would come by water to this mill, was 5500, and by land from 35,000 to 40,000 people; the payment was sure, as it was the custom always to take it in kind from the corn sent to be ground.

Four directors going out of office were then re-elected, two gentlemen were elected to fill up vacancies from resignation, forfeiture of certain shares for default was confirmed; and a vote of thanks having been passed to the chairman and to Col. Robinson, for his presentation and general attention to the society's interest, the meeting separated.

SLIGO AND SHANNON RAILWAY COMPANY.

The usual half-yearly meeting of shareholders in this undertaking was held at the offices, Winchester House, Old Broad-street, on Tuesday last, the 22d inst.

Capt. W. R. ORMSBY GORE, M.P., in the chair.

The SECRETARY read the notice convening the meeting, and the seal of the company having been fixed to the register of proprietors, the following director's report was submitted:—

Notwithstanding the calamity which has befallen Ireland, and the universal depression of railway interests, your directors have the satisfaction of expressing their confidence in the prospect which this railway promises of ultimately remunerating the proprietors for the capital to be embarked in it. Although your directors have been most desirous to commence the works, in order to get the line into operation as soon as possible, and thereby to create a return for the capital embarked, they have refrained from so doing, in the belief that they have thus best consulted the convenience of their proprietors—the large number of railway calls, during the past year, having been of so great an amount as to absorb much of the capital which would naturally have been invested in this railway. These reasons, added to the depressed state of trade in Ireland, caused by the late failure of the crops in that country, will, in the opinion of your directors, fully justify them in the course which they have adopted in refraining from making any call upon the proprietors in order to commence the works. Your directors have, however, completed all the preliminary arrangements, and proceeded so far as the funds at their disposal would admit, without having recourse to a call. They have brought their negotiations with the principal landowners to a satisfactory conclusion. The proprietors of one-half the land required for the purposes of the line have consented to give the company possession of their land, when required so to do, and to receive payment for its value in the shares of the company. With the remaining landowners, your directors anticipate no difficulty in obtaining possession of the land when required—they being desirous that the works should proceed, and having expressed their intention of facilitating the operations of the company whenever the directors are in a position to take the land for the purpose of making the line. The working plans of both the canal and the railroad have been prepared, and the line itself staked out on the ground, and no delay would now occur when it may be thought expedient to place the works in the hands of the contractor. The directors are justified in expecting that this line will be constructed on an economical scale, and that much of the expense usually incurred in the conveyance of materials will be rendered unnecessary, from its favourable position, being situated in an iron district, where that important article may be obtained in any quantity in the immediate vicinity; but your directors cannot help expressing their regret that the mineral resources of that part of the country are at present so little known, and have no doubt that this line will be the means of bringing its importance more prominently before the public, and a considerable amount of revenue may be fairly anticipated from the traffic that must arise from the working of the extensive mines in the district. It will be satisfactory for the proprietors to be informed that the works of the River Shannon have made considerable progress during the past year, and are at this time in active operation. Your directors have availed themselves of the powers of the Act of Parliament, passed during the present session, for the purpose of extending the time of purchasing the land, and completing the works; and they, therefore, applied to the Commissioners of Railways for an extension of two years. They have the satisfaction of reporting, that they have received a communication from the commissioners, stating that their warrant will be granted upon the necessary conditions being fulfilled. Your directors have deemed it advisable, under the present circumstances of the company, to reduce its expenditure as much as possible. During the past half-year, the expenses, including salaries, rent, and office expenses, have not exceeded 100*l*. The balance now in hand is not adequate to discharge the current expenses of the company, and it will also be necessary to discharge some part of the outstanding liabilities. These matters must shortly come under the consideration of the board; and the directors trust, when it shall become incumbent upon them to make a call upon the shareholders, that it will be cheerfully responded to. Your directors have reason to believe that better times are about to dawn upon the railway world in Ireland, and that this part of the country will be more immediately benefitted by the improvement; but, at present, they see no reason to recommend a commencement of the works, until the expiration of the twelvemonths which is required by the Act to which your directors have already alluded, which postpones all railways not commenced for that time, unless the proprietors think it advisable to commence them at an earlier date, which it is in their power to do, by calling a special meeting for the consideration of the subject. Your directors, in conclusion, trust that these arrangements, which, after careful consideration of the company's position and prospects, appear to them the most advisable to adopt, will meet the approbation of the proprietors.

From the statement of accounts, it appeared there had been received on calls 5091*l*. 5s.; interest, &c., 38*l*. 2s. 3d.; balance (petty cash), 9*l*. 15s. 5d.—making a total of 5139*l*. 2s. 8d.; and, per *contra*, it appeared, that nearly the whole of that sum had been expended. In preliminary expenses, for Act, 912*l*. 15s. 4d.; solicitors, engineers, witnesses, &c., 3060*l*. 7s.; office expenses, rent, &c., 844*l*. 12s. 6d.; advertisements, newspapers, stationery, &c., 232*l*. 19s. 10d.; sundries, 12*l*. 5s. 3d.

The CHAIRMAN, in moving the adoption of the report and accounts, said he had but few observations to make, there having been so little alteration since the last meeting. Their principal object had been to reduce the London expenses, and which, including everything, such as secretary's salary, rent, office expenses, &c., were under 200*l*. a year. He hoped the conduct of the directors would be duly appreciated, in not making calls during the depressed state of the money market, and the wretched state of Ireland. Many of their shareholders were gentlemen of Ireland, and they had suffered most severely. Without arrogating to the directors' unreasonable credit, he thought it would be considered, that they had got through all their preliminary expenses at a very low rate, and they were now in such a state, that they can commence the construction of the line the moment they obtained the money; their line was staked out, the working plans in readiness, and satisfactory arrangements had been made with the landowners. The balance-sheet was before them, and he should be happy to answer any question, as far as he was able.

In answer to a proprietor, it appeared that about three-fourths of the landowners would accept shares in payment for their land, and all were anxious for the speedy construction of the line.

The report was then adopted, thanks voted to the chairman, and the meeting broke up.

EAST INDIAN RAILWAY.—At the first annual meeting of the shareholders, held this day week at the London Tavern—B. D. COLVIN, Esq., in the chair—the report stated, that the directors, impressed with the importance of taking advantage of the cold season of 1847-8, dispatched Mr. Stephenson, with a competent staff, to India, limiting their proceedings to measures absolutely necessary. They had since heard that such prudent economy had been observed, that a considerable portion of the deposit of 5*s*. per share still remained. To raise the 100,000*l*. deposit required by the Hon. East India Company, and for general purposes, a call of 20*s*. was made, but which had not been responded to, and they proposed to forfeit all shares, on which the calls were not paid by March 10. A bill was proposed to be introduced to lower the value of the shares from 50*l*. to 20*l*. The shares in India had been well registered and paid upon. The report and accounts were adopted; and a vote of thanks having been passed to the chairman and directors, the meeting separated.

WEST CORNWALL RAILWAY COMPANY.—The half-yearly meeting of the shareholders in this company, was held at the offices, Broad-street-buildings, on Tuesday last, the 22d inst.—Capt. C. R. MOORSOM, R.N., in the chair—when, in the report of the directors, they stated that, although the prospects of the undertaking had been somewhat impeded by the late crisis, yet they had every confidence that it would eventually rise above all difficulties. Legal proceedings were still pending against Mr. F. Mowatt, M.P., for the non-fulfilment of his contract for the disposal of the unappropriated shares, and they were taking active steps for getting in the arrears of calls. They had not entered into any contracts, but had obtained an estimate from Mr. Brunel of the cost of construction of the works from Hayle to Penzance, and from which a net return of 8 per cent. was estimated. The traffic on the Hayle Railway had increased from 11,783*l*. in 1846, to 14,046*l*. in 1847, and the expenditure had decreased. From the statement of accounts, it appeared that the receipts had been 52,562*l*. 12s. 6d.; and expenditure, 51,002*l*. 12s. 4d.—leaving balance at bankers of 1560*l*. 0s. 2d.; this is in addition to shares, debentures, and mortgage, for the purchase of the Hayle Railway and stock, valued at 127,960*l*. From the revenue account, it appeared the receipts on the Hayle Railway were 15,936*l*. 2s. 3d.; expenditure, 14,899*l*. 5s. 11d.—leaving balance of 1036*l*. 16s. 4d. The liabilities outstanding amounted to about 15,000*l*.—A very long discussion ensued, in which the management of the company was much impugned; but at length the report was adopted, and a committee of five appointed to investigate the affairs and accounts of the company, when the meeting adjourned to the 5th of April next.

NORTH WALES RAILWAY.—The half-yearly meeting of the shareholders in this company was held at the Guildhall Coffee-house, on Tuesday last, the 22d inst.—Mr. W. CHADWICK in the chair. The report stated that, since the last meeting, the directors had continued the funds out at interest. The accounts showed the receipts to be 45,597*l*. 0s. 11d.; and expenditure, 23,404*l*. 2s. 7d.—leaving balance of 22,193*l*. 18s. 4d. It was stated, that out of 370 proprietors, 300 were favourable for dissolution, representing above 10,000 out of 12,000 shares, and that only six holders of 115 shares were opposing the bill now before the House for that purpose. The report was adopted, the retiring directors re-elected, and the meeting separated.

SOUTH WALES RAILWAY.—The half-yearly meeting of the shareholders in this company, was held at the Paddington Station, on Wednesday last, the 23d inst.—Mr. C. RUSSELL, in the chair. The report stated, that the call of July had enabled the directors to pay off all liabilities, without stopping the works, and thus retarding the completion of the line; the heavy works between Neath and Swansea were in a forward state; the Newport tunnel nearly completed; the rocks and cuttings about Chepstow and other parts were also in a forward state; and the part between Chepstow and Cardiff, if desirable, may be opened in the spring of 1849; and it was the decided opinion of the engineer, that the works would be completed within the estimates. Fishguard, St. David's, and Abermaur, were named for the eastern terminus; and Capt. Claxton was making experiments as to which was the most favourable for crossing the Channel to Ireland. The receipts had been 882,402*l*. 3s. 3d.; and payments, 694,932*l*. 16s. 7d.—leaving balance in hand of 187,499*l*. 6s. 8d. The report was adopted.

BIRMINGHAM AND OXFORD JUNCTION RAILWAY.—At the half-yearly general meeting of proprietors, held at Birmingham, on Saturday last,—Mr. P. H. MUNTZ, in the chair,—great interest was caused in consequence of the dismissal of the demurrer of the dissentient shareholders of the above company by the Lord Chancellor. Mr. MOZLEY said, the proceedings of the chairman were different to those usually adopted, and the business ought to be only formal; by filing the demurrer, the dissentient shareholders had not intended to throw any obstacle in the way of coming to a decision—the demurrer was thought the most likely method to come to a settlement. He proposed an amendment for an adjournment for the election of directors; and a letter was read from Mr. A. Dobie, to Messrs. Hunt, the solicitors, with proposals for an amicable arrangement; which amendment was carried by a large majority. Mr. Mozley then moved a vote of thanks to Mr. Muntz, for his conduct in the chair. Mr. MUNTZ replied, and said that, throughout the unpleasant legal proceedings, he had never made a personal enemy. The meeting adjourned to the 14th of March.

BIRMINGHAM, WOLVERHAMPTON, AND DUDLEY RAILWAY.—The usual half-yearly meeting of the shareholders in this company, was held at Dee's Royal Hotel, Birmingham, on Saturday last; when the engineer stated, that the lands and buildings on the line, with few exceptions, had been purchased, and the contractors would rapidly proceed with the tunnel at Hill-top, as also with the works through the town of Bilston. From the balance-sheet, as audited, it appeared that the receipts were 91,894*l*. 9s. 11d.; and expenditure, 61,211*l*. 16s. 11d.—leaving balance of 30,682*l*. 13s. The CHAIRMAN said, they had to congratulate themselves as to leasing the line to the Great Western, who, as an ally, had stuck fast to them. The retiring directors and auditors were re-elected, thanks voted to the chairman, and the meeting broke up.

RAILWAY SHARE TRANSACTIONS.

Mr. John Field, jun., stock-broker, appeared before the Court of Aldermen, on Tuesday last, in answer to the petition of Mr. Horatio Folliot Nelson, charging him with having acted in violation of the rules laid down by the Court for the observance of brokers for the prevention of fraud. Much interest was excited by the case, as it related to railway matters. Mr. E. James attended for the plaintiff, and Mr. Clarkson for the defendant.

The petition, which was presented by Mr. Alderman Copeland, stated at considerable length that of which the following is a summary:—The petitioner, since 1843, and up to May, 1847, employed the firm of Field, Son, and Bayley, as his brokers in the purchase and sale of shares and stock, and during that period there was an account current between them, which never had been closed or settled. The petitioner complained that, whereas the speculations which he had authorised the defendant to enter into were to be for their mutual profit or loss, the defendant charged him commission and interest for the money disbursed, which he (the petitioner) had not agreed to pay; and also, that the defendant had made untrue representations as to the rate at which certain shares had been sold by him. The petition concludes with praying that Mr. Field might be required to produce his broker's book, and to deliver an account of full particulars of the transactions between them.

Mr. CLARKSON objected *in limine* to the Court's jurisdiction, inasmuch as Mr. Field was and had acted as a partner with Mr. Nelson in those railway speculations, and not as a broker; and he contended that the production of the books, and the investigation applied for, would be likely to prejudice the case before the only tribunal to which it could properly be referred. He thought it would be infinitely more beneficial to refer that matter to arbitration.

Mr. JAMES declined any course but the direct interference of the Court in an affair wholly within their jurisdiction and authority.

After arguments of considerable length from both the learned gentlemen engaged, the Court decided to hear evidence upon the transaction referred to as having taken place in the case of the sale of the 670 shares on the 4th of September; that transaction alone, without any reference to partnership, appearing to come within the cognisance of the Court of Aldermen.

After the reception of evidence in support of the charge, Mr. CLARKSON admitted that his client had not complied with the regulations; but declared that, so far from having entertained a thought of fraudulent dealing, he had been a most serious loser by the unfortunate connection he had formed in these share speculations, which so many had reason to deplore.

The Court was then cleared, and the aldermen remained some time in consultation.

When the doors were re-opened, the RECORDER informed the parties that Mr. Field, jun., had committed, in the judgment of the Court, an infraction of the law, in not having registered in his books the names of the purchaser and seller; and that, if he required to be heard on the question, whether his bond should be put in force against him, the Court would appoint an early day for hearing him.

Mr. CLARKSON intimated that such was the anxious wish of his client; and next Tuesday week was appointed for the decision.

CALEDONIAN RAILWAY—ITS COMMERCIAL IMPORTANCE.

In our last Number, we noticed the opening of this highly-important line of railway, and the circumstance will form an era in the commercial history of that country, unsurpassed in interest by any previous event. The fact of London, Edinburgh, and Glasgow, being now within 12 or 14 hours of each other, is a circumstance which obliterates for ever the boundary between the two countries, and will, undoubtedly, tend to bind their inhabitants still closer in the bonds of fraternity. Scotland has immense resources yet to be developed—coal, various minerals, and an enormous amount of water-power, hitherto of little value from the want of good roads to the several localities, offer facilities for the increase of manufactures in Scotland to a vast extent; and the opening up of a large district of country by a railway with about 25 stations, in hitherto isolated, but populous and improving, towns and villages, will enable proprietors to make the most of those large natural advantages, which have yet lain dormant. With respect to this line, as a work of engineering talent, it is unsurpassed in the kingdom. Traversing a mountainous district of stupendous character, it was prognosticated that it could never be accomplished, or that, at the lowest computation, it would take 10 years to complete, at a cost of 9,000,000*l*. or 10,000,000*l*. sterling. Yet, what is the result?—in *two years and a half* it has been finished, in the most substantial manner, and at a cost of little more than 20,000*l*. per mile, for 130 miles of railway.

The authorities, in the construction of this great and important work, appear to have lost sight of the ornamental in the useful, and everything has been done to render the work thoroughly substantial, across bogs and quagmires, and over mountains, there not being a tunnel on any part of the line; this line is a specimen of what engineering perseverance will effect, and stands a proud monument of British skill. By it the distance from Carlisle to Edinburgh is 100 miles; to Glasgow, 104 miles by the Garnkirk branch, and 101 by the Clydesdale. Glasgow is 230 from Liverpool; Manchester, 233; and from London, 410; from London to Perth is 450 miles. In all its essentials as a great commercial trunk line, intended to unite the busy and populous towns of Scotland with the metropolis, and the midland and western manufacturing counties of England, the Caledonian Railway will, doubtless, prove one of equal importance with any in the empire. In the completion of a design so magnificent, many formidable difficulties had to be overcome; but in adopting a route, as near as possible the one Nature has pointed out by her valleys and water-courses, every obstacle has been surmounted, and the principal manufacturing districts united in one continuous line of communication by which their capabilities will be fully developed, and the natural resources of the country opened to the skill and enterprise of the population.

OAK FARM IRON-WORKS, NEAR DUDLEY.

SIR,—Notwithstanding the unfortunate position I am placed in, as the managing partner of the Oak Farm Company, and now in the Court of Bankruptcy, I cannot abstain longer from stating to the public, through your columns (for I feel satisfied you will not refuse to insert this) the real state of our affairs, so that no additional disclosures, as they have been called, may have to be announced to the public; and had I not believed all our creditors understood our position from the report made by the committee appointed by the creditors to investigate our affairs, I would have troubled you with the following explanation earlier:—In conjunction with Lord Lyttleton, Sir Stephen Richard Glynne, Bart., and the Right Hon. W. E. Gladstone, I carried on as managing partner the Oak Farm Works. I passed through the years 1841, 1842, 1843, and 1844, years most adverse to the iron trade, and established a connection and manufacture not surpassed by any in the kingdom. Having gone through these probationary years, and knowing my partners from their position in life were desirous of getting out of trade, I proposed to Mr. Roper (who is my brother-in-law) to join me in taking the works; and, in consequence, we became the company on the 2d of December, 1845. Before signing the deeds prepared by the old partner's solicitor, without being referred to our own, we came to an understanding that we should be supported in credit, and that the deeds were made stringent only to be acted upon in the event of our selling the works to a joint-stock company; and in the course of the investigation of our affairs, it will be shown that, in making the arrangement, I took every reasonable precaution to ensure both capital and credit for working the concern, independently of the security I thought we had, so long as I made the works productive, and properly appropriated the funds, in the interest the old partners would have in supporting us. The particulars of these arrangements, and those made subsequently, would make the letter too long if I were to give them; but the result of our working up to the 26th of November last, when we suspended payments, shows that, including interest, the liabilities of the old firm had been decreased 121,000*l*. since the 2d of December, 1845, as the report of the committee shows, and it will be yet shown that the erections and stock are increased in value. The statement made at the meeting was made by Mr. Coleman, from our books and my information; but, in that he merely gives the assets, which he thought would be available to the general creditors, and left all the mines, erections, and fixed property as subject to the mortgages, and which would be unproductive to them, excepting for as much as the machinery would sell for. Our account, according to Mr. Coleman's statement, stands thus—viz.:—

Liabilities taken to Dec. 2, 1845, from the old partnership, as ascertained by Mr. Coleman, in March, 1847, for the retired partners..... £327,500
Capital of Messrs. Boydell and Roper ..... 58,000—385,500
Total liabilities, Nov. 26, 1847, as shown by Mr. Coleman, in his statement made for the creditors, including our own capital ..... £314,000— 71,500

This shows us to stand 71,500*l*. better than we did on the 2d of December, 1845—supposing the stocks are of the same value. As I have said before, with erections, I consider them of more. This statement applies to the concern in general; but, with regard to the old partners it stands thus—viz.:

Their liabilities in Dec., 1845 ..... £327,500
Ditto on Nov. 26, 1847 217,300
£110,200
Interest paid ..... 11,000—121,200

Diminution of their (the old partners') liabilities. Mr. Attwood's debt, alluded to in your report, was considered as covered by a lien he holds upon iron, and it was on this account it was not named as a debt in Mr. Coleman's statement. Since the lien was given, iron has fallen in value; and he proceeded against us, and obtained judgment, as you represent. The 50,000*l*. mentioned in your report as being lost owing to the establishment of an iron warehouse in Liverpool, cannot be set off as a deduction from the claims of the old partners, being the deficiency the account shows from the year 1840 to the end of 1845, and arises from charges in Liverpool, and the difference between the prices charged and realised, and great part of such deficit may be considered as a payment for a connection which might hereafter have been of great value to us. The 30,000*l*. named as being a mortgage upon the freehold we are bound to pay; and, therefore, these amounts—viz.: the 30,000*l*. and the 30,000*l*.—cannot be deducted from our liabilities. I had hoped the old partners would have offered the unguaranteed creditors payment of their debts in full; and until they had shown they would not do so, by allowing us to become bankrupts, I did not interfere to endeavour to get the creditors to accede to their proposition of paying 9*s*.—but I am now trying to do so, without, I must admit, any great hope of success; and the circular I send with this, either for your perusal and insertion in your paper, or for the former only, will show you what I am doing.—J. BOYDELL: *Feb.* 22.

TO THE CREDITORS OF THE OAK FARM COMPANY.

GENTLEMEN,—Our affairs are at present in the hands of the Court of Bankruptcy, and the composition of 9*s*. in 1*l*. offered by our late partners nullified in consequence of Lord Ward's refusal to acquiesce in such an arrangement, and they will not consent to pay him more than others. So long as I conceived there was any possible chance of you receiving your debts in full, I abstained from making any personal application to you, and did all in my power to assist in obtaining the payment of them; but, now being satisfied there is no chance of such a desirable termination to our difficulties, and that bankruptcy, carried out in extremis, will, from the claims which the retired partners have by mortgage upon the works, and the forced sale of our stock, be most ruinous to all parties concerned, I venture to ask you, for your own sake, to agree to allow a sum not exceeding 1*s*. of the 9*s*. out of the proposed composition, if necessary, to pay Lord Ward, and those whom he may influence, their demands, if the old partners will agree to pay the composition, which they have notified they do not now consider themselves bound to do. This course has been suggested by some of the largest creditors; and, although unwilling to ask for such a contribution, I do so under the impression that it is the wish of a great majority of you that such a method may be taken. If any amount worth consideration could be obtained from our private property, I should have much delicacy in asking this; but, as that will be almost all absorbed by our private debts, and the probability being that very much less than the composition offered will be obtained by bankruptcy, as an expenditure of upwards of 250,000*l*. is by such a course rendered unavailable to you, having been expended in buildings, erections, and machinery, which cannot be retained or conveyed to purchasers, I feel myself justified in the course I am taking, and hope you will assist me in carrying the composition through; for, with the consent of all of you, we may yet have the bankruptcy superseded; and you will very much oblige me by letting me know, by return of post, whether you will agree to assist in attaining this object, if a sufficient number acquiesce in the arrangement.—J. BOYDELL: *Dudley, Feb.* 21.

NEW WATERLOO COLLIERY, SOUTH WALES.

VICE-CHANCELLOR'S COURT—FEB. 24.

PHELPS *v.* PROTHERO.—This cause, which has been before the Court several times on interlocutory applications, now came on for hearing. The facts, as proved by the evidence, are as follows:—The plaintiff was the lessee of the defendant of a certain colliery, called the New Waterloo Colliery, in South Wales, which was mortgaged to a gentleman named Cartwright. In the month of August, 1844, an action, which had been brought against the plaintiff for galeages under the lease, was compromised, and an agreement then entered into between the parties, whereby, as the plaintiff contended, he was discharged from all liability under the lease. The lease expired in March, 1846; and in December, in that year, the defendant brought another action against the plaintiff for seven quarters' galeages accrued between August, 1844, and the expiration of the lease. The plaintiff then filed the present bill, seeking an injunction to restrain the action and any other action upon the covenants of the lease.

Mr. SWANSTON and Mr. ROXBURGH, for the bill, contended that the defendant, having distinct notice of the mortgage to Mr. Cartwright, and knowing at the time he entered into the agreement that the lease was not in the possession of the plaintiff, it could not have formed any part of the agreement, as required by the defendant, that the lease should be given up to him, and submitted that, upon the evidence, the plaintiff was entitled to the relief prayed by the bill.

Mr. RUSSELL and Mr. WHITBREAD, for the defendant, contended that the mortgagee having at the time of the agreement exercised his power of sale, and no notice having been given to the defendant that such sale had taken place, the plaintiff was not entitled to the aid of a court of equity in enforcing specific performance.

Mr. SWANSTON having replied, his HONOUR gave the plaintiff his option either to have his bill dismissed without costs, or to take inquiries in the Master's office; and counsel having elected the latter, accounts were directed.

LLANTWIT VAIRDE, IN GLAMORGANSHIRE.

POWELL *v.* THOMAS.—His HONOUR disposed of the application for an injunction to restrain the defendant from ejecting the plaintiff from the glebe lands of Llantwit Vairde, in Glamorganshire, over which the plaintiff had constructed a railway, connecting the coal mines with the Taff Vale Railway. He granted the injunction on the terms of the plaintiff, submitting to judgment against him in the ejectment, and paying 200*l*. into court to cover the utmost possible claim which the defendant could have for the right of way.

AYRSHIRE IRON-WORKS.—It is reported that three of the blast furnaces at these works will be put on in the course of a short time.—*Scottish Railway Gaz.*

ROYAL COLLEGE OF CHEMISTRY,
HANOVER-SQUARE, LONDON.

THE PRACTICAL COURSE OF SCIENTIFIC INSTRUCTION

In this institution is under the DIRECTION of Dr. A. W. HOFMANN and assistants.

The NEXT SESSION will COMMENCE on MONDAY, the 6th of March, in the NEW LABORATORY, and END on the 31st July.

The fee for students, working every day during the session, is			£12	10	0
,,	,,	,,	Four days in the week	10	0	0
,,	,,	,,	Three days ,,	8	0	0
,,	,,	,,	Two days ,,	6	0	0
,,	,,	,,	One day ,,	4	0	0

The Hours of Attendance are from Nine to Five.

Further particulars may be obtained on application to the secretary, at the office of the college, Hanover-square. WILLIAM JOHNSON, Secretary. 39

FOURDRINIER'S PATENT SAFETY APPARATUS, for
THE PREVENTING ACCIDENTS IN MINES AND OTHER PLACES, WHEN THE ROPE OR CHAIN BREAKS.

By the ADOPTION of this INVENTION the LIVES of the WORKING MINERS may be PRESERVED, and the PROPERTY of the MINE OWNERS PROTECTED from the serious consequences of either of the following accidents—viz.: 40

1. From the men, or the load, being precipitated to the bottom of the shaft when the rope or chain breaks: in this case the apparatus is *self-acting*.

2. From either the men, or load, being drawn over the pulley: in this case, also, the apparatus is *self-acting*.

3. From the fearful consequences to men or load of a "whirl," or run: in this case the result is equally *certain*.

A COAL PIT, with the SAFETY APPARATUS ATTACHED to the CAGE, is daily at WORK near BURSLEM, in the STAFFORDSHIRE POTTERIES.

To inspect the apparatus, or to obtain any further information, application may be made to Mr. Edward N. Fourdrinier (the patentee), Cheddleton, near Leek, Staffordshire; or to Mr. Joseph Fourdrinier, 68, Arlington-street, Camden Town, London—who are prepared to GRANT LICENSES for the USE of the PATENT.

BRITISH MINING OFFICES—NOTICE.—The BUSINESS
of these OFFICES will henceforth BE CONDUCTED at No. 25, FLEET-STREET, LONDON, and No. 4, STAMP-OFFICE BUILDINGS, MANCHESTER, to either of which offices communications are requested to be addressed. The correspondence and reports, with the accounts, of the respective companies may be inspected at all times, on application. WILLIAM SHEARMAN,
British Mining Offices, Feb. 17, 1848. JAMES TRUSCOTT. 41

CARTHEW CONSOLS MINING COMPANY.—At a Special
General Meeting of adventurers, in the CARTHEW CONSOLS MINING COMPANY, held at the British Mining Offices, 4, Stamp-office Buildings, Manchester, on Friday, the 11th February inst., pursuant to circular,

JOSEPH SMITH, Esq., in the chair,

The objects for which the meeting was convened having been conveyed by the chairman, the following resolutions were submitted *seriatim*, and carried unanimously:—

That the rules and regulations be adopted and entered in the Cost-book, and that the same be signed and admitted by the respective adventurers.

That Mr. W. Shearman be appointed as purser.

That Capt. H. F. Stephens be appointed as cashier and chief superintendent. 42

That Mr. James Gray be appointed as agent and engineer.

That Mr. W. H. Gray be appointed as storekeeper—that he be required to furnish, monthly, an abstract of the stock account.

That the management of the affairs of the mine be henceforth conducted at the British Mining Offices, and that the sum of 12 guineas per month be paid for the same—such sum to include all charges for rent and stationery, services of manager, purser, consulting engineer, clerks, &c., except any payment made for stamps or carriage, or such as may be allowed by the finance committee.

That no transfer fees shall be charged, and that the form of transfer laid on the table be approved.

That a finance committee be appointed, in accordance with the sixth resolution, passed this day; and that the financial management of the affairs of the mine be conducted in Manchester—that the sum of five guineas per month be allowed for the services of the committee, and that the same be charged in the monthly cost sheet.

That Mr. John Fry be appointed as the doctor, or surgeon, of the mine—whose services be paid for in the ordinary manner.

On the resolution of the chairman—moved and seconded,—

That the thanks of the meeting be given to Mr. Henry English, for the services rendered by that gentleman—such motion was carried unanimously.

JOSEPH SMITH, Chairman.

Moved by Mr. Truscott; seconded by Mr. Rawson,—

That the cordial thanks of the adventurers be, and are hereby, given to the chairman, for his urbane and gentlemanly conduct in the chair this day.—Carried unanimously.

W. SHEARMAN, Purser.

DYFNGWM LEAD MINE.—At a meeting of the Dyfngwm
Lead Mine Company, held at the London Tavern this day,

W. W. TAYLOR, Esq., in the chair, 43

Various superior samples of ore were exhibited, with plans and sections of the mine; also detailed accounts of the working of the Delwfe lode to the present time; but, in consequence of information required from the resident manager not arriving from Wales,

It was resolved,—That this meeting be adjourned till Monday next, the 28th February next, at One for Two o'clock precisely, at the London Tavern, Bishopsgate-street.

London, Feb. 24, 1848. (Signed) W. W. TAYLOR.

TINCROFT MINING COMPANY.—At a General Meeting
of adventurers, held at the offices of the company, 44, Finsbury-square, on Thursday, the 17th inst., 44

Resolved,—That the reports and accounts, now submitted, be received, adopted, and entered on the minutes; and that, for the future, there be appended to the usual quarterly statement of accounts a supplementary account, showing, up to the most recent period practicable, the cost and returns of the mines, and a statement of the ores on surface, so far as ascertained.—Carried unanimously.

Resolved,—That the thanks of the shareholders be presented to the chairman and directors, for their able and judicious management of the affairs of this company.—Carried unanimously.

STEAM TO INDIA AND CHINA, VIA EGYPT.—Regular
MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY 45 BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton the 20th; and from Suez on or about the 10th of every month.

For rates of passage-money, plans of the steamers, and to secure passages, apply at the company's offices, 51, St. Mary Axe, London.

STRONG MIXING PIG-IRON.—The YSTALYFERA
IRON COMPANY beg to solicit ORDERS for their ANTHRACITE PIG-IRON. This iron mixes well with Scotch pig—imparting to it strength and elasticity, and receiving from it a portion of its softness and fluidity. No. 3 Pig is recommended for mixing with soft iron—Nos. 1 and 2, for machinery castings, requiring great soundness and strength. At this period, when cast-iron is so much employed in the construction of bridges and other buildings, requiring all the strength and elasticity which the best mixture of metal will afford, it may be interesting to call attention to the characteristics of ANTHRACITE PIG-IRON, as REPORTED on by that great practical authority, the late DAVID MUSHET, Esq., M.I.C.E.:— 46

"It greatly exceeds, in *strength*, in *defective* powers, and capacity to resist *impact*, any iron at this time manufactured in the United Kingdom."

"It now only remains for me to mention a property peculiar to this iron, which was noticed at the time I made the trial experiments, four years ago, but which has been more fully developed in those more recently made. The property referred to is one of *great springiness*, or *elasticity*, which communicates a tendency to the bar, in deflecting and breaking, to resume its rectangular form. Bars that had obtained a permanent set of 2-10ths, when afterwards broken, presented but a slight deviation from a right line; and in no case, did the curvature exceed one-fourth of a tenth."

"It was also remarked, that most of the fractures, in breaking, presented a *regularity of grain* throughout, resembling the structure of *unhardened steel*."

Address THE YSTALYFERA IRON COMPANY,
Dated June 22, 1847. *Near NEATH, SOUTH WALES.*

HOT-BLAST WITHOUT COAL, LABOUR, OR REPAIRS.
DIXON AND BUDD'S PATENTS.

Apply for particulars, or to inspect the process in operation on six blast-furnaces, to J. Palmer Budd, Esq., Ystalyfera Iron-Works, near Neath. 47
Dated June 22, 1847.

PATENT GALVANISED IRON AND WIRE ROPE WORKS,
MILLWALL, POPLAR.

ANDREW SMITH begs to inform the Mining, Railway, and Shipping Interests, that he has obtained a PATENT for an IMPROVED METHOD of GALVANISING IRON, producing a much superior article at a considerable saving in cost—the improved process for galvanising wire rope, adding only £10 per ton instead of £30, under the ordinary processes. The rope is extensively used in damp situations, for mining and railway purposes, and for ships' standing rigging. 48

PATENT METALLIC LAVA—FOR FOOT PAVEMENT,
FLOORING, COVERING OF ARCHES, TERRACES, VIADUCTS, TUNNELS FOR RAILWAYS, &c.

MANUFACTURED ONLY BY ORSI AND ARMANI.
OFFICES—6, *GUILDHALL-CHAMBERS, BASINGHALL-STREET.*
WORKS—*(CUBITT'S WHARF) MILLWALL, POPLAR.* 49

LAMBERT'S PATENT FLEXIBLE DIAPHRAGM
WATER VALVES, or TAPS.—A certain PREVENTATIVE of LEAKAGE, superseding the use of the metal plug-tap, which is so continually out of order. They are more durable, less expensive, and being nearly frictionless, are opened and closed with perfect ease. They have been tested under various pressures, and have given the greatest satisfaction.—MANUFACTURED ONLY by the Patentees,
THOMAS LAMBERT & SON, Brass and Cock Founders,
30, New-cut, Blackfriars-road. 50

PATENT IMPROVEMENTS IN CHRONOMETERS,
WATCHES, AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1843. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £9 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each. 51

DENT'S PATENT DIPLIEDOSCOPE, or meridian instrument, is now ready for delivery. Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

BRISTOL AND EXETER RAILWAY COMPANY.—
Notice is hereby given, that the next HALF-YEARLY GENERAL MEETING of the proprietors of this company will be HELD, in pursuance of the Act of Parliament, at the White Lion Hotel, in the city of Bristol, on Thursday, the 2d of March, at Twelve o'clock, for the election of four directors, in the room of those who retire, and for other affairs. The chair will be taken at One o'clock precisely.

JAMES W. BULLER, Chairman. 52

The retiring directors may be re-elected.

The transfer books will be closed on Monday, the 21st of February, and not be reopened until after the said general meeting, on the 2d of March.

The dividend and interest for the half-year, ending on the 31st of December, 1847, will be payable to those shareholders who stand registered when the transfer books are closed on the said 21st day of February.

Shares in arrear do not entitle the holders to vote, nor are proxies available, unless lodged with the secretary five days, at the least, before the meeting.

By order of the board of directors,
Bristol Office, 30, Broad-street, Feb. 4, 1848. J. B. BADHAM, Secretary.

CALEDONIAN RAILWAY—LOANS ON DEBENTURES.
The CALEDONIAN RAILWAY COMPANY are prepared to RECEIVE TENDERS OF LOANS ON DEBENTURES, in sums of not less than £500, for three or five years—bearing interest at the rate of 5 per cent. per annum, payable half-yearly, in Edinburgh, Glasgow, London, Liverpool, Manchester, or Bristol. 53

Tenders to be addressed to this office. Parties may also communicate personally with Messrs. Foster and Braithwaite, 68, Old Broad-street, London.

By order of the directors, D. RANKINE, Treasurer.
Caledonian Railway Office, 122, Princes-street, Edinburgh, March 26, 1847.

CLARKE AND VARLEY'S PATENT ELASTIC ATMOS-
PHERIC RAILWAY TUBE.

The PROPRIETORS are now prepared to GRANT LICENSES, or TREAT with RAILWAY COMPANIES and OWNERS of MINERAL, or other PRIVATE RAILWAYS, for the ADOPTION of the PATENT TUBE.

IMPORTANT IMPROVEMENTS have been recently effected in its CONSTRUCTION, and the proprietors have caused such experiments to be made on the working of the tube at Blackwall, by Mr. William Gravatt, in conjunction with their own engineer, as justify them in recommending this invention, with perfect confidence, to the notice of the public. It is one capable of removing the practical difficulties that have hitherto interfered with the success of the atmospheric principle; and they feel convinced, that, by its means, the superior advantages of this system of railway propulsion will be fully established. 54

The EXPERIMENTAL TUBE, which is 15 inches diameter, and above 300 ft. in length, may now be seen in operation every day, from One till Four o'clock, at the Poplar Station, on the London and Blackwall Railway.

Communications to be addressed to Mr. W. B. Hays, engineer to the proprietors, of whom any further information may be obtained, at their office, 31, Parliament-street, Westminster.—Feb. 5, 1848.

JOWETT'S PATENT HYDRAULIC TELEGRAPH.
OFFICES—No. 17, WELLINGTON-STREET, STRAND.
(Adjoining the *Morning Post* and *Court Journal*.)

PRELIMINARY ANNOUNCEMENT. 55

In the present important age of mechanical invention and advancement in the various branches of science, probably one of the most prominent production of fertile genius is that of instantaneous correspondence by telegraphic means upon railroads, no matter how far distant the transit. Telegraphic communication by electric machinery has already exhibited, upon numerous lines of locomotive traffic, the great advantages derived by the public through the medium of its powerful agency. But, successful as the telegraph mode of correspondence by electric aid may be considered, still greater and far more effective results will be secured to the public by Jowett's Patent Hydraulic Telegraph. The patentee, in the present limited detail, merely claims public attention to the following items in the way of superiority over the electric telegraph:—1. The economy in the construction of the hydraulic telegraph will be, at least, a saving of two-thirds, compared with the outlay required by the electric, independently of the considerable increase of speed, and the results far more decisive and distinct.—2. No expense whatever (after the first amount for construction) will be necessary to provide for the continuous working of the hydraulic telegraph, it being beyond the possibility of doubt that its action can be deranged, nor can any atmospheric changes interfere with, or affect, the success of its operations.—3. No physical impediment can compete with the laying down and the perpetual use of the hydraulic telegraph—neither height, depth, sinuosity, nor distance opposing in the slightest degree in perfect action. Detailed printed particulars are in preparation. In the meantime the patentee may be seen daily, from Eleven to Three, at the offices, 17, Wellington-street, Strand, where the models and plans are open to the inspection of the public.

WHISHAW'S IMPROVED HYDRAULIC TELEGRAPH,
1848—INVENTED, 1837.—MODELS will SOON BE READY FOR INSPECTION.—Adelphi, Feb. 25, 1848. 56

FLEXIBLE HOSE-PIPES FOR LOCOMOTIVE ENGINES,
RAILWAY CRANES, FIRE-ENGINES, GAS, &c.
PATENT VULCANISED INDIA-RUBBER HOSE-PIPES AND TUBING OF EVERY DESCRIPTION. 57

These pipes are made to stand hot-water without injury—are very superior to leather pipes, or the common India-rubber pipes; and, as they do not become hard or stiff in the lowest temperatures, or require any application when out of use, are particularly well adapted for fire-engines.

FLEXIBLE TUBING, of every description, for gas, chemical purposes, &c.

VULCANISED INDIA-RUBBER WASHERS, all sizes, for steam and hot-water joints, &c.—Sole manufacturer, JAMES LYNE HANCOCK,
Goswell Mews, Goswell-road, London.

TO ENGINEERS AND BOILER-MAKERS.

LAP-WELDED IRON TUBES, FOR MARINE AND
LOCOMOTIVE STEAM-BOILERS,
TUBES FOR STEAM, GAS, AND OTHER PURPOSES,
ALL SORTS OF GAS FITTINGS. 58

THE BIRMINGHAM PATENT IRON TUBE COMPANY,
42, CAMBRIDGE-STREET, BIRMINGHAM, & SMETHWICK, STAFFORDSHIRE, MANUFACTURE BOILER and GAS TUBES, under an exclusive License from Mr. R. Prosser, the patentee. These tubes are very extensively used in the boilers of marine and locomotive steam-engines in England and on the Continent—are stronger, lighter, cheaper, and more durable than brass or copper tubes, and are warranted not to open in the weld.

42, CAMBRIDGE-STREET, CRESCENT, BIRMINGHAM.
WORKS—SMETHWICK, STAFFORDSHIRE.
LONDON WAREHOUSE—No. 68, UPPER THAMES-STREET.

Now ready, Third Edition, greatly enlarged, with handsome Map of the country, from Calcutta to Lahore, 8vo, 59

INDIAN RAILWAYS: By AN OLD INDIAN POSTMASTER.
"The best testimony to the soundness of the Old Postmaster's views is, that not a few of his opinions have been followed by those in authority."—*Indian News.*

"There has not been such a valuable contribution to the civilisation of India as this work."—*Observer.*

London: T. C. Newby and P. Richardson, Cornhill.

NATIONAL DEFENCES. By WILLIAM MALINS.—
A PLAN, submitted for the consideration of Government, whereby any required Force, of the heaviest Artillery and Troops, may be concentrated at the point of danger, so as to arrest a hostile Fleet under the Fire of Moveable Batteries, traversing on a Railroad at High-water line of Coast, where assailable. The Electric Telegraph, carried along the same line, would convey notice of the approach of an enemy. From the Harbours of Refuge, Block-ships and Steamers might quickly arrive to attack the enemy in flank and rear, and thus between two fires destroy him.

Published by J. Ridgway, Piccadilly; E. Wilson, Royal Exchange.—*Price* 1s. 60

NATIONAL DISINFECTED AND DRY MANURE
COMPANY.

OFFICES—No. 7, BANK CHAMBERS, LOTHBURY.

[REGISTERED PROVISIONALLY.]

Capital £200,000, in 20,000 shares, of £10 each.—Deposit £1 per share.

No call will exceed 5s. per share, and the liability of shareholders will be limited to the amount of their respective shares.

PROVISIONAL COMMITTEE. 61

GERARD BARRY, M.D., Charles-street, St. James's-square.
JAMES ORGILL, Esq., Birmingham.
THOMAS BALDWIN, Esq., Birmingham.
JOSHUA E. COOPER, Esq., West Ham, Sussex.

BANKERS—Messrs. Spooner, Atwoods, and Co.

The object of this company is to collect the animal and vegetable refuse of large and populous towns, and subsequently to convert them into a dry, inodorous, and portable manure.

By the company's process all decomposed substances, whether animal or vegetable, liquid or otherwise, may be rapidly converted into a scentless manure—rich in every fertilising quality, and abounding in vegetable stimulant.

A manure, somewhat similar, has for some time been manufactured by a prosperous company in Paris, under the commercial firm of "Baronnet and Co." Their last report states, that "crops were obtained incomparably finer, and more abundant, than by the use of any other manure.

The cost of preparation is trivial, in comparison with any of the present methods of dressing. The committee, therefore, have no hesitation in affirming, that the profits will realise the most sanguine expectations of shareholders.

The primary operations of the company will commence in the town of Birmingham. Samples of the manure may be seen at the offices.

An influential list of patrons and directors will shortly be advertised; meanwhile applications for shares, agencies, &c., may be addressed to

JAMES H. KENWORTHY, Secretary pro tem.

LONDON AND PROVINCIAL DETECTIVE ASSOCIA-
TION, FOR THE PROTECTION OF TRADE.

No. 39, SOUTHAMPTON-BUILDINGS, HOLBORN, LONDON. 62

OFFICE HOURS: TEN TO FOUR.

The object of this institution is to furnish every information (which may be obtained by subscribers only) respecting all parties, in any capacity whatever, avoiding their creditors, under any circumstances; also, in providing every species of information calculated to protect Bankers, Merchants, Tradesmen, Companies, Institutions, Assurance Offices, Loan Societies, Auctioneers, Landlords, Tenants, &c., in such a manner hitherto unattempted by any kindred society.

Subscribers may be preserved from losses through fraud of all kinds, by previous application at this office. They are also requested to make every communication in their power that may tend to protect the members, which will be considered strictly private, and, at the same time, deemed a favour.

Persons wishing to become members of this association, must apply, by letter only, addressed (pre-paid) to the secretary, who will forward the rules.

Subscribers only are eligible to apply for any information—the terms of which are £1 1s. per annum—10s. 6d. in advance. H. E. NEWMAN, Secretary.

CALDWALL'S PATENT SELF-FLEETING WINDLASS,
CAPSTAN, AND RIDING BITS COMPANY.
OFFICES—No. 73, KING WILLIAM-STREET, LONDON. 63

The patronage of the Lords of the Admiralty and the Hon. Trinity Board, together with testimonials of several of the most practical, scientific, and influential nautical men in the kingdom, having guaranteed the importance to the maritime world of the above-mentioned invention, it is now proposed to carry out the manufacture of the several patented articles—WINDLASSES, CAPSTANS, RIDING BITS, &c., by means of a capital of £100,000, to be raised in 5000 shares, of £20 each, and to be conducted by a company, to be formed for the purpose.

The above inventions, in addition to their superiority over the old windlass, capstan, &c., have the recommendation of greater economy, as they can be supplied at a less price—affording a very handsome profit, and, consequently, a large return to shareholders.

Models may be seen in operation—prospectuses obtained, and every information given, by application at the office, 73, King William-street, City, from Eleven till Four daily, and orders are received there and at the manufactory, Bell Wharf, Shadwell.

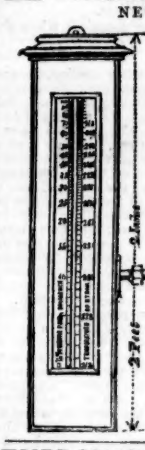
IMPORTANT TO RAILWAY AND STEAM NAVIGATION
COMPANIES, MANUFACTURERS, AND ENGINEERS.
W. BROTHERTON AND CO.'S
PATENT LUBRICATING FLUID (or Animal Oil) FOR ALL DESCRIPTIONS OF MACHINERY. 64

W. B. & CO. have the pleasure to state, that the above article is extensively used in her Majesty's Steam Navy, and by several of the principal Steam Navigation and Railway Companies, and is pronounced by them, and by the first practical engineers of the day, to be far better adapted for the purposes of lubrication than any other article hitherto used for such purposes. The Patent Lubricating Fluid is equally applicable for the most intricate and fine pieces of machinery, as for the heaviest bearings of the steam-engine. It is cheaper, much more economical, and cleaner than oils at present in use; is free from smell, and calculated to effect a vast saving in the expenditure of working steam powers.

Further particulars can be had, and testimonials seen, by application to the manufacturers, W. BROTHERTON & CO., Hungerford Wharf, Strand, London.
N.B.—The above article will burn in lamps, and give a light equal to the best sperm oil.

THE EXPLOSION AT MANCHESTER.

HENRY BAKER begs to call the attention of ENGINEERS
and PROPRIETORS of STEAM-ENGINES, to his
NEWLY-IMPROVED STEAM-GAUGE, 65



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			1840	116 7 6	54 0 10	7 18 10	296 13 4
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